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**STOPPING  
WATER POLLUTION  
AT ITS SOURCE**



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**STATUS REPORT ON THE  
EFFLUENT MONITORING DATA  
FOR THE  
IRON AND STEEL SECTOR  
FOR THE PERIOD  
FROM NOVEMBER 1, 1989 TO OCTOBER 31, 1990**

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**Environment  
Ontario**

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STATUS REPORT ON THE EFFLUENT  
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## **I   FOREWORD**

This report presents the effluent monitoring data collected by the Iron and Steel Manufacturing Sector under Ontario Regulation 321/89 as amended to Ontario Regulation 602/89 and Ontario Regulation 139/90. Monitoring under this regulation began on November 1, 1989 and was completed on October 31, 1990.

Due to labour disputes, effluent monitoring data for Algoma Steel, Stelco Hilton Works and Stelco Lake Erie Works are available for a period of nine months from November 1, 1989 to July 31, 1990. When steel production resumed, these plants voluntarily collected and analyzed samples to compensate for the monthly, quarterly and semi-annual samples missed during the shut down period. Results of these analyses will be included in the Development Document of the Iron and Steel Effluent Limit Regulation. The collection of additional samples for daily, thrice weekly and weekly sampling frequencies was not necessary because the nine months of monitoring had provided sufficiently adequate data to develop effluent limits.

The Iron and Steel sector companies continue to voluntarily monitor their effluent streams until commencement of the Effluent Limits Regulation. This voluntary monitoring period entails weekly sampling for 15 parameters.

This report contains:

- \*     An overview of the Iron and Steel Sector which includes a description of the major processes at each plant.
- \*     A summary of the effluent monitoring requirements as outlined in the effluent monitoring regulation.
- \*     The status of the effluent monitoring data.
- \*     A discussion of the results including a presentation of concentrations and loadings of conventional and priority pollutants identified at each plant .



## II INTRODUCTION

The Municipal and Industrial Strategy for Abatement (MISA) is a regulatory program of the Ontario Ministry of the Environment aimed at the virtual elimination of persistent toxic contaminants from all discharges into Ontario's waterways.

This goal will be achieved by:

- \* Identifying and measuring the discharge of toxic substances and conventional contaminants in order to establish a comprehensive database on contaminants discharged throughout Ontario.
- \* Increasing the emphasis on control technology through the application of Best Available Technology Economically Achievable (BATEA) to achieve further reductions of pollution at source.

The program involves nine industrial sectors and entails two phases. In the first phase, effluent monitoring regulations required dischargers to monitor their point source discharges at regular intervals according to specific sampling, analytical, quality control, and quality assurance protocols and procedures outlined under the General Effluent Monitoring Regulation (Ontario Regulation 695/88) for a period of one year.

The Ministry regional staff ensured compliance with the monitoring regulation. They inspected the plants during the monitoring period and carried out audit sampling. The Ministry's laboratory performed inspection sample analyses to verify the analytical data collected by the industry.

The second phase involves the development and implementation of effluent limit regulations using the information gathered by the Effluent Monitoring Regulation together with information collected on the Best Available Technology Economically Achievable.

The Joint Technical Committee for the Iron and Steel Sector is currently working on issues such as the removal of statistically determined outliers and the use of QA/QC data in relation to the development of the Effluent Limits Regulation for the Iron and Steel Sector.

This report summarizes all of the monitoring data obtained under the Effluent Monitoring Regulation for the Iron and Steel Sector.



### **III     SECTOR OVERVIEW**

The Iron and Steel Sector in Ontario consists of seven plants. Four of these are integrated iron and steel plants: Algoma Steel, Dofasco Steel, Stelco Hilton Works, and Stelco Lake Erie Works. Raw materials such as coal and iron ore are used in the cokemaking and ironmaking operations. Steelmaking, hot forming and finishing operations are also carried out at these plants. One plant, Atlas Specialty Steels, produces specialty steel and the other two, Ivaco Rolling Mills and Lake Ontario Steel Company (LASCO) are mini-mills which use electric arc furnaces and scrap steel to produce carbon steel.

An overview of each of the Iron and Steel companies is provided in this section.

#### **A     INTEGRATED PLANTS**

##### **A-1     ALGOMA STEEL CORPORATION LIMITED**

Algoma Steel is located in Sault Ste. Marie, Ontario, adjacent to the St. Marys River. The plant produces plates, hot and cold rolled sheets, structural and seamless tubings and rails. The plant has an annual capacity of 3 million tonnes of steel.

A new gravel/sand filter system, operational since April 1990, provides treatment for wastewaters from the rolling mills, from the reduction temper (cold) mill and from the cokemaking operations at a rate of 347,000 m<sup>3</sup>/day.

Wastewaters from cokemaking processes are treated using a phenol recovery plant, and ammonia recovery stills and settling basins. Currently these wastewaters from the cokemaking operations are directed to the filter plant. A fluidized bed biological treatment plant has been installed and will be operational in the near future to replace the phenol plant.

Wastewaters, from the two blast furnaces gas cleaning systems and from the two basic oxygen furnaces gas cleaning systems, are discharged to thickeners where polymer is added prior to a discharge to the Bar and Strip Lagoon and to the St. Marys River. There are no recycling systems for the process waters of both the ironmaking and steelmaking operations.

Wastewaters from the # 1 Tube Mill are treated in a lagoon and discharged on a once through basis. The modern # 2 Tube Mill is equipped with a filtration plant and high rate recycle system.

## **A-2    DOFASCO**

Dofasco is located in the City of Hamilton, Ontario, adjacent to Hamilton Harbour. The plant produces flat rolled, cold rolled, hot rolled, galvanized, galvalume, tinplate, and silicon electrical steel. Production of steel ingots and casting have totalled more than 4.5 million tonnes annually. Shipments of flat rolled product, semi-finished steel and steel castings amount to more than 3.4 million tonnes per year.

### **Cokemaking**

Coal is converted into metallurgical coke in Dofasco's three coke plants. Emissions that result during the cokemaking operations in the first coke plant are directed to a wet electrostatic precipitator. The effluent from the wet electrostatic precipitator is directed to the quench tower sump. The second coke plant uses a baghouse to clean its emissions and does not have a waste water effluent. The third coke plant uses a wet gas scrubber. The wastewater is directed to the quench tower where it is recycled.

By-products recovered at the coke plants include crude coal tars, crude light oil, anhydrous ammonia and ammonium sulphate.

Weak ammonia liquor is pumped to ammonia stills. The still effluent, final cooler condensate, fractionator bottoms and intercepting sump water from by-product recovery operations are directed to the aerobic biological treatment plant. The biological treatment plant has a retention time of 4 to 6 hours.

### **Ironmaking**

There are four Blast Furnaces. The water used to scrub the gas from the blast furnaces is recycled at a rate of 98000 m<sup>3</sup>/day with a blowdown of about 2000 m<sup>3</sup>/day. The blowdown is treated by a clarifier and sand filters prior to discharge to Hamilton Harbour. This recycling system was put into operation on April 16, 1990 during the regulatory monitoring period.

### **Steelmaking**

There are four Basic Oxygen Furnaces (BOF). The water used to scrub the gas at the furnaces is discharged to the BOF clarifier. There is no recycling system.

### **Hot Forming**

There are two hot strip mills. Both of these mills treat their wastewater by filtration. The #1 hot mill water filtration plant treats 155,200 m<sup>3</sup>/day. Currently only 30% is recycled to the #1 hot strip mill and about 110,000 m<sup>3</sup>/day is discharged to Hamilton Harbour.



The #2 hot mill filtration plant treats up to 280,000 m<sup>3</sup>/day. A flow of about 271,000 m<sup>3</sup>/day (97% of the total flow) is recycled to the #2 hot strip mill and a blowdown of 9,000 m<sup>3</sup>/day is discharged to the harbour.

### **Cold Rolling and Finishing**

Dofasco has two cleaning lines, four temper mills, five cold rolling mills, four pickle lines, four galvanizing/galvalume lines, two electrolytic tinning lines and two silicon electrical steel lines to further condition the steel.

Effluent from these operations is treated at the cold mill wastewater treatment plant which consists of three main treatment systems:

1. neutralization/solids removal
2. emulsion breaking/oil removal, and
3. ion exchange system for chromium removal.

In addition there are two acid regeneration plants which treat spent solutions of hydrochloric acid from the pickle lines and regenerate it for reuse back at the pickle lines.

Treated effluent from all cold rolling/finishing operations are discharged to the Hamilton-Wentworth Sewage Treatment Plant for further treatment.

A new cold mill and a state-of-the-art wastewater treatment system is currently under construction. The new wastewater treatment plant is the first of its kind in the Iron and Steel Industry to employ evaporation technology to treat oily emulsions.

## **STELCO INC.**

Stelco's Hilton Works and Lake Erie Works have a combined annual nominal capacity of about 4.1 million tonnes of steel products. One plant is located in Hamilton and the other in Nanticoke.

### **A-3 HILTON WORKS**

Hilton Works is located adjacent to Hamilton Harbour. The plant produces plate, flat rolled, cold rolled, bar products, shaped steel and coiled sheet products coated with zinc, tin and chrome. Hilton Works has a centralized water treatment system which provides final treatment for the following operations:

- \* Cokemaking and By-products
- \* Sinter Plant
- \* Two Blast Furnaces
- \* Basic Oxygen Furnace (BOF) (Dry gas cleaning)
- \* Continuous Caster
- \* Hot forming operations
- \* Cold Rolling and Finishing

Process effluents from these operations enter the East Side Filter Plant through Cell #1 which is equipped with oil skimmers for oil removal from the lagoon surface. The water flows from Cell #1 to Cell #2 which is equipped with one rope skimmer to remove any remaining oil. All process water is pumped from Cell #2 into the filter plant. The filter plant has two parallel stages each with sand/anthracite/gravel filter media. Stage 1 is a pressure filter system with 20 cells, where as stage 2 is gravity filter system with 12 cells. The 2-staged filter plants capacity is approximately 650,000 m<sup>3</sup>/day.

The following is a brief description of the major operations:

#### **Cokemaking Plant**

There are five Coke Oven batteries. Four batteries are operating continuously to convert coal to metallurgical coke. A fifth Coke Oven battery is on idle hot and has not been operational since 1982 but is ready to put into service when required. There are three process wastewater streams from the Coke Oven Batteries.

The first process effluent stream is from the wet electrostatic precipitator which cleans the Coke Side Shed Air Emissions. This process stream is directed to the East Side Filtration Plant for treatment at an approximate rate of 6000 m<sup>3</sup>/day.

The second process stream, consisting of combustion stack sump condensate and coke wharf drainage effluents, is directed to the West Side Open Cut and the North West Outfall.

The third process stream which consists of the breeze basin overflow is discharged to the West Side Open Cut and the North West Outfall. The once-through non-contact cooling water for the Coke Oven Batteries is discharged to the same outfalls.

By-products recovered at the coke plant include crude coal tars, crude light oil, anhydrous ammonia and coke oven gas.

Excess ammonia liquor, final cooler condensate, light oil plant, fractionator bottoms, intercepting sump water from by-product recovery operations and pushing emission scrubber water comprise the wastewater from the coke plant.

Except for waste from the ammonia recovery still, all process wastewaters are sent to the East Side Filter Plant for treatment. Approximately 1700 m<sup>3</sup>/day of excess ammonia liquor is directed to an ammonia still for ammonia removal. Caustic soda is used in the ammonia still to remove most of the ammonia. All pre-treated water is then discharged to the Hamilton-Wentworth Sewage Treatment Plant for further treatment.

Hamilton Bay water is used for coke quenching.

### **Ironmaking and sintering**

There are two blast furnaces, "D" and "E", each with interconnected gas cleaning water recirculating systems. There is also a sinter plant and a wet gas cleaning system integrated with the blast furnace water systems.

The "D" furnace has a recirculating water system for gas cleaning and gas cooling. All recirculating flow is treated using two clarifiers for suspended solids removal. One clarifier serves as an operating spare.

The "E" furnace also has a recirculating water system for gas cleaning and gas cooling. The recirculating water flow is treated using two clarifiers and cooled with indirect heat exchangers. One clarifier serves as an operating spare.

The underflow from all of the clarifiers is pumped to a sludge thickener located at the sinter plant. The underflow from the thickener is dewatered using vacuum filters. The overflow from the sludge thickener is returned to the clarifiers of "E" blast furnace.

Any blowdown from the integrated water recirculating systems is directed to a sump. This sump serves as a water supply station for the sinter plant gas cleaning system.

Sump water is pumped to the sinter plant scrubber for gas cleaning and is then directed to the East Side Filtration Plant for treatment.

Water from Hamilton Harbour is used for slag cooling at "D" blast furnace. Excess water is discharged to the West Side Open Cut. Relatively small volumes of water are used in the pelletized slag operation at "E" blast furnace. Excess water from this operation is discharged to the North West Outfall.

Once through non-contact cooling water discharges to Hamilton Harbour via the West Side Open Cut and the Northwest Outfall.

### **Steelmaking**

There are three Basic Oxygen Furnaces (BOF) equipped with dry gas cleaning systems. Therefore, no process wastewater is generated from this operation.

### **Hot Forming operations**

The primary hot rolling mills consist of a Universal Slab Mill, #3 Bloom and Billet Mill, the 20" Mill, #2 Rod Mill, 56" Hot Strip Mill, 148" Plate Mill and #1 Bar Mill. The 20" Mill which is not in the confines of the Hilton Works facility has been permanently closed since April 1990.

Process waters of the #2 Rod Mill are chemically treated to enhance settling of solids in a scale pit. The effluent from the scale pit is directed to a settling lagoon prior to a final discharge to Hamilton Harbour. Both the scale pit and lagoon are equipped with oil skimmers for oil removal.

Process water from the #3 Bloom and Billet Mill is treated through the use of scale pits and sand filters to permit water recirculation. All blowdown water is filtered prior to discharge via the North Outfall at an average rate of 28,350 m<sup>3</sup>/day. Non contact cooling water is discharged through the same outfall.

Wastewater from the other hot rolling mills is treated using scale pits prior to recycling. The blowdown effluent streams flow to the East Side Filtration Plant for treatment.

Most of the cooling water from the hot rolling mills is cascaded and used for scale flushing where it becomes a source process water.

### **Finishing Operations**

The finishing operations consist of strip pickling, cold rolling and temper rolling, annealing, strip coating processes involving galvanizing, tining and chrome plating, coiling and shearing facilities.

Rolling oils from the cold rolling operations together with recovered oils from other parts of the plant are processed in an oil/water separation plant. The separated water is further treated at the East Side Filtration Plant.

Spent acid from hydrochloric acid pickling lines is recovered at a hydrochloric acid regeneration plant and then reused. Rinse water from the tin lines is processed using an ion exchange plant for chrome removal. The water is then recycled.

#### **A-4 LAKE ERIE WORKS**

Lake Erie Works is located in Nanticoke, Ontario, on the northern shore of Lake Erie. The plant consists of the following operations:

- \* Cokemaking and By-products
- \* One Blast Furnace
- \* Two Basic Oxygen Furnaces
- \* Vacuum Degasser
- \* Continuous Caster (slab,twin strand)
- \* Hot Strip Mill and Slab Conditioning

Lake Erie Works is designed with high rate water recycle for each process. The blowdown from the recycled process water systems on the vacuum degasser, continuous caster and hot strip mill are cascaded to the BOF gas cleaning water recirculation system.

The blowdown from the coke plant non-contact cooling water recirculation system is used for coke quenching. The non-contact waters for the coke plant, blast furnace, BOF and power station are recirculated. Process water required for the blast furnace is also recirculated. The use of the recirculation system thereby minimizes the total water discharge from the plant.

All water blowdown receives final treatment in a centralized Blowdown Treatment Plant. There are two separate treatment systems in the Blowdown Treatment Plant for pretreatment and filtration before the water is released to an equalization lagoon. All water from the developed lands flows through the pond and discharges via a single outlet to a seasonal creek and then to Lake Erie.

The first system treats the water from the Basic Oxygen Furnace and the central power station. The total flow of these streams is approximately 12530 m<sup>3</sup>/day. The wastewater flows to a chemical mixing tank where caustic soda is added to adjust the pH to 10. A polymer flocculant is also added to enhance solids removal in a reactor clarifier. The overflow from the clarifier is directed to an equalization tank for pH adjustment to 8. The water is then pumped through pressure sand filters prior to discharge to a lagoon (pond 4).

The second treatment system receives the effluent from the biological oxidation plant and the blowdown from the blast furnace. These streams flow to an equalization tank and then to a flash mixing tank where caustic soda and a flocculant are added for precipitating dissolved solids and removal of solids in a tilted plate separator. The caustic soda is added to maintain a pH of 8. The flocculant is added to enhance solids removal. Further treatment includes break point chlorination followed by final pH adjustment and pressure filtration combined with the first system described above.

The following is a brief description of the major operations:

### **Cokemaking Plant**

By-products recovered at the coke plant include crude coal tars, crude light oil and anhydrous ammonia. Waste ammonia liquor, fractionator bottoms, intercepting sump water from by-product recovery operations and pushing emission control system scrubber water comprise the wastewater from the coke plant.

Except for pushing emission scrubber water, all process wastewater, surface run-off from the immediate process areas and rain water collected on concrete containment pads is sent to the biological oxidation plant for treatment via the ammonia liquor tank and ammonia still. The ammonia liquor tank which has a 24 hour retention time. The water is pumped from the tank to the ammonia still for ammonia recovery. Caustic soda is used in the ammonia still to remove most of the ammonia. The water is then sent to the biological oxidation plant for further treatment. Non-contact cooling water for the cokemaking area is recirculated with 1% blowdown to the quench tower breeze basin for coke quenching.

Emission control scrubber water is sent to the quench tower breeze basin for coke quenching thereby eliminating this source of wastewater. Fresh water is used for quench sump make up if required.

### **Ironmaking**

Blast furnace gas is scrubbed with recirculated water to remove the particulates and the gas is used as a fuel. The water used to scrub the gas is clarified and cooled then recirculated back to the scrubber. A polymer is added to the water before entry to the clarifiers to aid in solids removal. The blowdown, which is about 6 to 8% of the recirculation rate, flows to the blowdown treatment plant for final treatment. A portion of the blowdown water is used for slag quenching. Slag quenching has a separate water recirculation system and no blowdown.

The sludge collected from the blast furnace clarifiers is pumped in slurry form to a tailing lagoon where it is dewatered. The decanted water from the lagoon is then pumped to the blowdown treatment plant for further treatment.

### **Steelmaking**

Basic Oxygen Furnace (BOF) cleaning water is processed using 2 classifiers to remove heavy solids prior to processing in a clarifier. The processed water is recirculated and a blowdown of about 9% of the recirculation rate is directed to the blowdown treatment plant. The sludge is dewatered using vacuum filters then stored on land on site for future reuse.

### **Hot Strip Mill**

The primary sources of process water in the hot strip mill are the flume flushing water from the roughing and intermediate stands and the spray cooling system. Water used for cooling and flushing flows to a lagoon before filtration via a gravity sand filter. The water is then cooled and recirculated to the hot strip mill. The only blowdown from the hot strip mill is the backwash from the gravity sand filter. The backwash is pumped to the steelmaking facility and used as make-up water in the BOF recirculation system by pumping the water to the thickeners for settling of solids.

### **Central Power Station**

There are two waste streams resulting from the central power station area. One stream consists of the condensate from the boilers and the other from the backwash of the zeolite softeners. These streams along with the lime sludge from the water softening process are directed to the Blowdown Treatment Plant for treatment.





## **B    SPECIALTY STEEL AND MINI-MILLS**

### **B-1    ATLAS SPECIALTY STEELS**

Atlas Specialty Steels is located in Welland, Ontario, adjacent to the Welland River. The plant produces specialty steel products. These products include stainless, carbon, low and high alloy, tool, machinery and mining steels in billet and ingot form. Atlas Specialty Steels produced 127,000 tonnes of steel during the 12 month monitoring period.

Electric arc furnaces are used to melt scrap metal. The steel melt is refined and continuously cast or poured into ingots prior to hot rolling operations. Following the hot rolling processes, the steel may undergo heat treating, machining or cold finishing.

Atlas uses water from the Old Welland Canal and potable water from the City of Welland for process and cooling purposes.

During hot and mild weather, canal water is used basically once through the plant and discharged to Welland River. During cold weather, plant water is recirculated.

Process effluents are treated by a Waste Acid Solidification Plant and two filter treatment plants (north and south plants)

The Waste Acid Solidification Plant (WASP) was installed for the purposes of disposing of a portion of the Electric Arc Furnace bag house dust, neutralizing waste pickling acids and neutralizing salt bath descaling and pickling rinse waters. Lime is added to the waste acids for neutralization and metal precipitation as hydroxides and silicates. The WASP discharges a volume of 52 m<sup>3</sup> each day to the North Treatment Plant.

The North Plant water treatment system consists of a collection sump, lagoon equipped with oil skimmer and a gravity-sand-anthracite filter system. Polymer is added to the collection sump to aid in settling of solids. The lagoon has a retention time of approximately 1 to 2 hours. The effluent is either returned to the water distribution system or discharged to the Welland River by gravity through the 42" Sewer. Treated effluent is discharged at a rate of 27,000 m<sup>3</sup>/day.

The South Plant treatment system is similar to that of the North Plant except that there is no lagoon preceding the gravity sand filters. The south plant effluent is returned to the water distribution system. The two wastewater filtration/reclamation facilities are credited with reducing total plant water consumption by 27% through increased recirculation.

## **B-2 IVACO ROLLING MILLS**

Ivaco Rolling Mills is situated in L'Original, Ontario, adjacent to the Ottawa River. The plant produces billets in a comprehensive range of high and low carbon steel grades. Ivaco Rolling Mills produce 500,000 tonnes of steel products annually.

Two electric arc furnaces are used to melt steel scrap which is then continuously cast into steel billets.

The process water is generated from direct contact cooling of rolls in the rod mill during the hot forming process. The process water is recycled through the mill pond. The mill pond is used for settling of mill scale and cooling of the recycled mill water. The mill pond has not been discharging since February 1988.

The non-contact cooling water is recirculated over a cooling tower. The blowdown from the cooling tower is discharged to the scale pit. The blowdown is operated manually to control total dissolved solids. This system will be automated in the future.

## **B-3 LAKE ONTARIO STEEL COMPANY (LASCO)**

LASCO is located in Whitby, Ontario, adjacent to Lake Ontario. The plant produces 660,000 tonnes of low carbon steel grade products annually.

There are two electric arc furnaces to melt scrap steel. At present one furnace is in use. The molten steel is cast into billets and is then hot rolled into final products.

The process water is generated from direct cooling. The contact water is directed to two scale pits for the removal of heavy solids. Each scale pit normally operates for approximately 1 to 3 weeks. The effluent from the scale pits overflows to a cooling/settling pond where the smaller solids settle out.

The process water is recirculated after straining by three rotating type strainers. The level of dissolved solids is controlled by discharging 5760 m<sup>3</sup>/day to the south pond for final settling prior to discharging to Lake Ontario.

Sludge, basically mill scale, from the cooling pond is removed once every 4 years and is sold to the cement industry.

LASCO's non-contact cooling water flow is recirculated over a cooling tower. The non-contact cooling water flow is 173,000 m<sup>3</sup>/day with a blowdown of 864 m<sup>3</sup>/day to the south pond.

## **IV     MONITORING DATA EVALUATION**

### **A - EFFLUENT MONITORING REQUIREMENTS**

Monitoring data for the Iron and Steel Sector were collected and submitted by the Industry as required by Ontario Regulation 321/89 as amended to Ontario Regulation 602/89 and Ontario Regulation 139/90. Monitoring under these Regulations began on November 1, 1989 and was completed on October 31, 1990.

Under the monitoring regulation each iron and steel plant monitored several process subcategories to provide industry wide effluent characteristics of all process subcategory streams. All final discharge streams were also monitored.

The following process subcategories were monitored under the regulation:

- \* Cokemaking
- \* Ironmaking
- \* Steelmaking
- \* Hot forming
- \* Cold forming including acid pickling

In addition, the following effluent streams were monitored:

- \* Cooling water
- \* Emergency overflow
- \* Final
- \* Storage site
- \* Storm water
- \* Waste disposal site

Under the Regulation, sixty-two effluent sampling points were monitored, comprising of 13 cooling water, 6 emergency overflow, 18 final, 11 process subcategory, 2 storage site effluent, 9 storm water and 3 waste disposal sites.

The Iron and Steel sector monitoring parameter list, based on the Effluent Monitoring Priority Pollutants List (EMPPL), was used to design specific monitoring requirements for characterizing the wastewater of the Steel Industry. The two major categories of the Industry are:

- \* integrated iron and steel mills (four plants) which encompass all process subcategories include the cokemaking and ironmaking processes.
- \* specialty steel producers and mini-mills (three plants) which include steelmaking and finishing processes. These plants produce specialty steel and low carbon steel products through melting of scrap metals.

Appendix I outlines the parameters monitored for in the integrated mills and specialty steel and mini-mills respectively. Also included are the Regulation Method detection Limits(RMDL) as well as the Provincial Water Quality Objectives/Guidelines (PWQO/G).

The monitoring regulation focused on 17 parameters, currently regulated by USEPA, for routine monitoring which entailed daily, thrice weekly and weekly sampling for the process subcategory and final effluent streams. The parameters outlined below were assigned to specific process subcategories and final effluent streams based on the USEPA experience, results of the pre-regulation monitoring and the technical knowledge of each individual process :

Ammonia	Naphthalene
Benzene	Total Nickel
Benzo(a)pyrene	Oil and Grease
Conductivity	pH
Total Chromium	Phenolics(4AAP)
Cyanide Total	Suspended solids
Dissolved Organic Carbon	Total Phosphorus
Hexavalent Chromium	Total Zinc
Total Lead	

Monthly and quarterly monitoring for selected parameters was also required at all final effluent streams.

Non-contact cooling water effluent streams at the integrated iron and steel plants were monitored monthly for:

Ammonia	Total Chromium
Cyanide Total	Dissolved Organic Carbon
Iron	Total Lead
Oil and Grease	pH
Phenolics(4AAP)	Suspended solids
Total Phosphorus	Total Zinc

In addition, analysis of all parameters assigned to the integrated mills was carried out on quarterly basis.

Non-contact cooling waters effluent streams at specialty and mini-mills were monitored monthly for:

Total Chromium	Dissolved Organic Carbon
Iron	Total Lead/Nickel
Oil and Grease	pH
Suspended solids	Total Phosphorus
Total Zinc	

In addition, analysis of all parameters assigned to the specialty and mini mills was carried out on quarterly basis.

Emergency overflow, storage site, storm water and waste disposal site effluent streams were monitored for the 17 parameters. These parameters were routinely monitored for final and process subcategory effluent streams to facilitate a comparison of loading and to assess significant sources of contaminants.

A quality assurance and quality control (QA/QC) program was also required under the Regulation.

Field QA/QC samples (duplicates, travelling blank, travelling spiked blank) were collected from one process subcategory effluent stream, one final effluent stream and one cooling water stream from each plant site.

The QA/QC samples were collected on a monthly basis for those parameters which were monitored on daily, weekly and thrice weekly basis; and were collected semi annually for those parameters which were monitored monthly.



## B - STATUS OF MONITORING

The Iron and Steel Sector has completed 12 months of monitoring as of November 1, 1990 with the exception of Stelco Lake Erie Works, Stelco Hilton Works and Algoma Steel. These plants collected nine (9) months of data because labour disputes caused closure of plant operations. This status report covers the following monitoring periods for each iron and steel plant:

Algoma Steel	November 1, 1989 to July 31, 1990
Dofasco Steel	November 1, 1989 to October 31, 1990
Stelco Hilton	November 1, 1990 to July 31, 1990
Stelco Lake Erie Works	November 1, 1990 to July 31, 1990
Atlas Specialty Steel	November 1, 1989 to October 31, 1990
Ivaco Rolling Mills	November 1, 1989 to October 31, 1990
Lasco	November 1, 1990 to October 31, 1990

### 1. Quantity of Analytical Data

A significant amount of data has been collected from the iron and steel plants during the monitoring period. The following table outlines the total data points including quality control/quality assurance data collected at each plant:

PLANT	TOTAL NUMBER OF RECORDS
ALGOMA STEEL	37579
DOFASCO INC	37654
STELCO HILTON	27687
STELCO LAKE ERIE	9674
ATLAS STEEL	13150
IVACO	2392
LASCO	7094
-----	
TOTAL	135230

### 2. Preliminary Assessment of the Monitoring Data

A preliminary review of data was carried out and several tables and figures are attached. A list of remark codes is shown in Appendix II. The assessment of the data was based on the following criteria:

- \* All analytical results with remark codes "<DL", "<T", "<W", "<", ">", "A", "AR" and those without a remark code are included.

- \* All other data with the remark codes different than the ones mentioned above were not used in the analyses in this report. These questionable data which amounted to 2.0% of the total database were usually due to interference during analysis, improper preservation or improper storage time. Some data which were incorporated in this report and coded "AR" may require further evaluation.
- \* For continuous streams, such as final effluent streams, the daily loading (kg/day) of a parameter is calculated by multiplying the reported daily flow by the daily concentration.
- \* For event oriented discharges such as storm water, emergency overflow and waste disposal site, the mass loading (kg) of a parameter is calculated by multiplying the total volume discharged in a month by the average monthly concentration. The values reported represent the sum of all the monthly loadings during the monitoring period (LTA).

### 3. Evaluation of Data With Remark Codes <DL, <W, <T

Data values with remark codes < DL, <W, <T have been replaced using the following criteria:

- \* Zero to calculate the minimum long term average (MINIMUM LTA)
- \* RMDL to calculate the maximum long term average (MAXIMUM LTA)
- \* RMDL/10 if the value is less than RMDL/10, otherwise the value reported was used to calculate the long term average (LTA).



## C - DISCUSSION OF RESULTS

The following is a brief discussion of the results obtained for the Iron and Steel Sector. The monitoring data obtained from each plant are discussed in five sections:

- \* Review of plant results
- \* Non-contact cooling water
- \* Storm water and Emergency overflows
- \* Toxicity testing

A summary of effluent concentrations of parameters identified at each Iron and Steel Plant, along with a comparison of the Ministry's inspection sample data are included in Appendices III through VI for the integrated plants; and in Appendices VII through IX for the specialty steel/ mini-mills, respectively. Intake water loadings were reported where the discharger provided data.

In this report, parameters with quality control concerns were highlighted but not excluded from the database. The database also includes some aberrations which reflect abnormal process operations.

It should be pointed out that all loading values stated in this report are gross values. With the exception of dioxins and furans, parameters with loadings less than .001 kg/day were not included in the loading tables.

Priority pollutants which are never found above the RMDL are not included in the tables and are considered as non-occurrence parameters.

Monthly average flows and loadings for selected parameters are shown in Figures 1 to 14. For the purpose of the graphical presentations, priority pollutants are presented as groups such as non-halogenated volatile compounds and polynuclear aromatic hydrocarbon compounds.

### C-1 ALGOMA STEEL

Table 1 outlines the plant total loadings of the parameters identified in the final effluent streams of Algoma Steel.

The plant total loadings are the sum of loadings discharged from the control points; Bar and Strip Lagoon, #1 Tube Mill, Terminal Settling Basins, #2 Tube Mill and 24" Coke Quench Overflow. The loadings of Bar and Strip and Terminal Settling Basins include storm water runoff from the process areas. Loadings from these control points are shown in Tables 1.1 to 1.6.

The dual-media filtration system, installed at the Terminal Settling Basins and operated since April 1990, treats 70% of the total process flow which represents process waters from the rolling mills, cokemaking and finishing operations. The ironmaking and steelmaking process flows are discharged through the Bar and Strip Lagoon outfall.

The effectiveness of the filtration system was evident by the reduction in total suspended solids, oil & grease and phenolics loadings as shown in Tables 1.3 and 1.4. After the operation of the filtration system, the monthly average loadings of total suspended solids, oil & grease, and phenolics were below the control order requirements. There was no significant reduction of ammonia, non-halogenated volatile and polyaromatic hydrocarbon compounds.

Priority pollutants such as non-halogenated volatile compounds (benzene and toluene) and polyaromatic hydrocarbon compounds ( benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno (1,2,3-cd) pyrene, naphthalene, perylene, pyrene and benzo(a)pyrene ) originate at the by-products area of the cokemaking process.

Treatment for wastewater in the by-products area includes primary settling, phenol recovery plant, ammonia stills and a light oil recovery plant. A biological treatment system has been constructed and will be operational in the near future. The system should enhance the removal efficiency of the priority pollutants.

Another source of conventional and priority pollutants was the Coke Quench Overflow. Cyanide, phenolics, ammonia, zinc, oil & grease and benzene were found in the Coke Quench Overflow. This overflow was directed to the new filter plant in April 1991.

The major source of cyanide (65 kg/day) and zinc (43 kg/day) is the Bar and Strip Lagoon effluent stream. This effluent stream receives discharges from the ironmaking and steelmaking processes. These loadings represent 84% and 83% of the total cyanide and zinc plant loadings respectively.

Monitoring of effluents from hot forming operations (as represented by #1 and #2 seamless tube mills) indicate that oil & grease and total suspended solids are the predominant parameters. As a result of the filtration and recycling systems at # 2 Tube Mill, the total suspended solids loadings (3 kg/day) were much lower than at #1 Tube Mill (15 kg/day).

Octadibenzofuran was found at two outfalls at Algoma Steel in one sample each (average concentrations of 1.000 ng/L and 0.069 ng/L).

## **Non-contact cooling water**

The monitoring of non-contact cooling water for the ironmaking process (control points 200 and 300) indicated that there was a potential for contamination with phenolics (15 ug/L) and cyanide (.034 mg/L). The presence of oil & grease, sulphide, lead and ammonia however were not valid representation since their levels were less than those of the travelling blank samples.

The Coke Oven Condenser, a non-contact cooling water stream was a source of phenolics (39 ug/L).

## **Storm water**

The designated storm water monitoring control point drains the hot forming process areas. Effluent mass loadings for storm water from these areas are shown in Table 1.7.

## **Toxicity Testing**

Of the 60 samples (50 tests by Algoma Steel and 10 by the Ministry) that were tested with rainbow trout for Algoma steel, ten samples revealed acute toxicity (i.e. LC50 < 100%). The Bar and Strip Lagoon discharge exhibited acute toxic effects nine out of ten tests. The Coke Quench Overflow was only tested once by the Ministry and was acutely lethal.

Of the 60 samples that were tested for toxicity to Daphnia magna for Algoma Steel ten samples were acutely lethal. Seven out of 10 tests at the Bar and Strip Lagoon were acutely lethal. The Boiler House non-contact cooling water effluent stream was acutely toxic in one out of two samples. The Coke Oven Condenser non-contact cooling water was acutely lethal in one out of three samples. The Coke Quench Overflow was also acutely lethal.

## **C-2 DOFASCO STEEL**

The plant total loadings of parameters identified in final effluent streams are shown in Table 2. These plant loadings are the sum of those at the East Boat Slip Sewer, the Ottawa Street Sewer and the West Bay Front Sewer. Loadings from these control points are outlined in Tables 2.1 to 2.4. The plant total loadings do not include those of cold rolling/finishing operations which are directed to the Hamilton-Wentworth municipal treatment facility.

Dofasco also monitored all parameters in the sector list at its Bay water intake. Loadings of conventional and priority pollutants that are found in the Bay water intake are shown in Table 2.5.

The East Boat Slip Sewer receives mainly non-contact cooling water from the steelmaking operation. The contribution of this source to the total plant loading is less than 10%.

The Ottawa Street Sewer receives effluents from the #1 and #2 Hot Mill Filtration Plants and non-contact cooling water from the steelmaking, hot forming and continuous casting operations.

The West Bay Front Sewer discharges about 60% of the total plant flows. It receives effluents from cokemaking, ironmaking and steelmaking processes. Non-contact cooling water from the blast furnaces and the by-product plants, as well as ore yard storm water, are also discharged at the West Bay Front Sewer. The contribution of the West Bay Front Sewer to the total plant loadings is 65% of suspended solids, 76% of polynuclear aromatic hydrocarbon compounds, 86% of cyanide, 72% of phenolics, 90% of ammonia and 50% of zinc.

A recycling system installed in April 1990 at the ironmaking process has resulted in a reduction of 97% in water use. As a result of this tight recycling system, the ironmaking process contributed low loadings of contaminants to the West Bay Front Sewer outfall. For example, loadings of total suspended solids from the ironmaking sand filter were reduced from 2124 kg/day to 84 kg/day, zinc from 40 kg/day to 0.6 kg/day, cyanide from 13 kg/day to 0.75 kg/day, ammonia from 165 kg/day to 59 kg/day and phenolics from 2.3 kg/day to 0.5 kg/day.

With the exception of zinc, the reduction in the loadings from the ironmaking process has not resulted in a significant reduction of loadings discharged from the West Bay Front Sewer, as shown in Tables 2.3 and 2.4, due to contributions from other sources. Zinc loadings discharged from the West Bay Front Sewer have been reduced from 95 kg/day to 17 kg/day.

### **Non-contact cooling water**

Two non-contact cooling water effluent streams were monitored under the Regulation: Boiler House Sewers #1 and #2. The Boiler House Sewer #2 receives turboblower condenser water and was uncontaminated. The effluent from Boiler House Sewer #1 contained phenolics, cyanide, sulphide, ammonia and zinc. These pollutants may be attributed to the intermittent discharges from the coke wharf and ore yard storm waters.

### **Storm water effluent streams**

Two storm water sewers which discharge directly to Hamilton Harbour are the Coal Field Storm Sewer and the Kenilworth Plant Storm Sewer. The Coal Field Storm Sewer is a source of phenolics, naphthalene, benzo(a)pyrene and benzene. The total mass loadings for the twelve month monitoring period from these sources are shown in Table 2.6.

## **Toxicity Testing**

Of the 47 samples that were tested with rainbow trout for Dofasco, two samples at the West Bay Front Sewer were acutely lethal.

Of the 47 samples that were tested for toxicity to Daphnia magna one sample from the East Boat Slip Sewer was acutely lethal. Five samples exhibited some mortality upon diluting the effluents: 2 out of 12 from the Ottawa Street Sewer, 2 out of 12 from the West Bay Front Sewer and one out of 4 from #2 Boiler House non-contact cooling water

## **C-3 STELCO HILTON WORKS**

Table 3 outlines the plant total gross loadings of the parameters identified in the final effluent streams of Stelco Hilton Works. The plant loadings are the sum of loadings discharged from the West Side Open Cut, Northwest Outfall, North Outfall, East Side Filter Plant and #2 Rod Mill. Loadings from these individual control points are shown in Tables 3.1 to 3.6. The 20" Mill final effluent was also monitored until its permanent closure in April 1990. The effluent loadings for the 20" mill are not included in Table 3. Loadings from this mill are listed in Table 3.6 and would therefore result in a decrease in the overall loading for Stelco Hilton Works.

Stelco Hilton Works also monitored all parameters in the sector list at its Bay water intake. Loadings of conventional and priority pollutants that are found in the Bay water intake are shown in Table 3.7.

Stelco Hilton Works has a centralized treatment system for all process subcategories with the exception of the cokemaking process subcategory. Excess flushing ammonia liquor, is pre-treated and then directed to the Hamilton-Wentworth Municipal Sewage Treatment Plant for further treatment by contract and agreement.

The West Side Open Cut and the Northwest Outfall receive occasional overflow from the coke quench breeze basin, condensate from stack sump, drainage from the coke wharf and non-contact cooling water from the By-products plants for the cokemaking process. Loadings of cyanide, ammonia and Polynuclear Aromatic Hydrocarbon (PAH) compounds from both of these outfalls account for about 50% of the total gross loading for the plant.

The North Outfall receives non-contact cooling water and process waters from the #3 bloom and billet mill. This outfall is not a source of priority organic pollutants. It contributes approximately 20% of the total plant loadings of heavy metals and suspended solids.

The East Side Filter Plant effluent contributes the majority of the plant loadings. The filter plant treats a flow of approximately 400,000 m<sup>3</sup>/day. It provides the final treatment for conventional and priority pollutants of the condensate from the oil recovery systems, the effluent from the coke side shed electrostatic precipitator, as well as the sintering, hot forming (with the exception of #3 bloom and billet mill) and finishing operations.

### **Non-contact cooling water**

In May 1990, process effluents from the Acid Regeneration Plant and the #3 Pickle Line were diverted from the #1 60 inch sewer to the East Side Filter Plant for treatment. This diversion resulted in a significant reduction in contaminant loadings from this discharge point. Prior to the diversion, one sample was taken from the #1 60 inch sewer which resulted in the detection of the chlorodibenzofuran compounds (total tetra-, penta-, hexa-, hepta-, and octachlorodibenzofuran at concentrations ranging from 0.083 to 0.930 ng/L). The #1 60 Inch Sewer is now discharging non-contact cooling water. Another sample has been collected from the non-contact cooling water stream to confirm the elimination of such compounds.

### **Storm water**

There was no direct storm water discharge during the monitoring period.

### **Emergency Overflow**

During the monitoring period three emergency overflow events occurred. Table 3.6 list the total mass loading for the three events.

### **Toxicity Testing**

Of the 82 samples that were tested with rainbow trout for Stelco Hilton Works only three samples were acutely lethal. These samples were collected from the #1 60" Sewer prior to the diversion of the Acid Regeneration Plant and #3 Pickle Line process effluent streams. As a result of the diversion, the effluent stream is non-lethal.

Of the 82 samples that were tested for toxicity to Daphnia magna, four were acutely lethal at the #1 60" Sewer prior to the diversion and three samples were acutely lethal at the #2 Rod Mill. The cause of toxicity at the #2 Rod Mill may be due to the presence of a biocide which is no longer being added to the hydraulic oils used at this facility.

## **C-4 STELCO LAKE ERIE WORKS**

Lake Erie Works has a centralized treatment system which provides final treatment for all process blowdown from ironmaking, cokemaking, steelmaking and hot forming operations.

Table 4 outlines total plant loadings as measured at the outlet of Pond #4. This total gross loading includes process and storm water since Lake Erie Works collects and treats all storm water originating from the process areas.

### **Storm Water**

Stelco Lake Erie Works has dedicated storm water retention ponds for collection of storm water from the storage area prior to discharge and treatment through Pond #4. Table 4.1 lists the total mass loadings during the nine month monitoring period.

### **Toxicity Testing**

The effluent from this plant is non-lethal to rainbow trout. Two samples out of 10 were acutely lethal to Daphnia magna. There is no indication that specific chemicals have caused the toxicity.

## **C-5 ATLAS SPECIALTY STEELS**

The plant total loadings are shown in Table 5. The total loadings calculated at the 42" Sewer include storm water and non-contact cooling water discharges. Table 5.1 outlines Atlas intake loadings.

The monitoring strategy for this plant is focused on the analysis of an internal effluent stream prior to the final treatment in the North Plant. This internal stream is the Waste Acid Solidification Plant (WASP) which treats a high strength process waste consisting of a portion of the Electric Arc Furnace baghouse dust, salt bath descaling and pickling rinse waters.

Chromium (23 mg/L) and nickel (41 mg/L), which were found at the effluent of WASP, have been further treated in the North Plant to levels of .03 mg/L and .12 mg/L respectively.

The levels of priority pollutants (such as 1,2,3,5- and 1,2,4,5-tetrachlorobenzene, chloroform, o-xylene, 1,2,4-trichlorobenzene and 1,1,2-trichloroethane) were less than those of the travelling blank sample indicating that these pollutants may be a result of laboratory and/or sampling contamination.

Octachlorodibenzo-p-dioxin (0.400 ng/L) and octachlorodibenzofuran (0.075 ng/L) were detected in one out of two samples collected at the final effluent. These compounds were also found at the plant intake (from Old Welland Canal) at a level of 0.840 ng/L and 0.155 ng/L respectively.

## **Waste Disposal Site**

Table 5.2 shows the total mass loadings discharged from Atlas waste disposal site.

## **Toxicity Testing**

The final effluent was not acutely lethal to rainbow trout. Five out of 12 samples were acutely lethal to Daphnia magna.

## **C-6 IVACO ROLLING MILLS**

The plant total loadings are shown in Table 6. Although there were no process waters being discharged since February 1988, the blowdown of the non-contact cooling water included contaminants indicative of process waters. These parameters were zinc, hexavalent chromium, trichloroethylene, tetrachloroethylene, chromium, toluene and oil & grease.

Loadings of priority pollutants (chloroform, tetrachloroethylene, toluene, phenanthrene, 1,1-Dichloroethylene, 1,2-Dichloroethane, benzene) are less than .001 kg/day. The presence of trichloroethylene in the blowdown of the cooling water at a loading of .01 kg/day is likely attributed to solvents used in the plant.

## **Storm water**

Table 6.1 lists the total mass loadings from the direct storm water effluent streams during the monitoring period.

## **Toxicity Testing**

The final effluent of Ivaco rolling Mills is not lethal to rainbow trout as evidenced by five tests. Of the five effluent samples that were tested for toxicity to Daphnia magna one sample was acutely lethal.



## **C-7    LAKE ONTARIO STEEL COMPANY (LASCO)**

The total loadings of conventional and priority pollutants discharged from the plant are shown in Table 7. This plant loadings are based on a flow of 6765 m<sup>3</sup>/day, which consists mainly of a process flow of 4896 m<sup>3</sup>/day, a non-contact water flow of 864 m<sup>3</sup>/day and a possible indirect storm water flow of about 1000 m<sup>3</sup>/day. During the monitoring period there was no discharge from the waste disposal site to Lake Ontario

### **Storm water**

Table 7.1 lists the total mass loadings during the monitoring period from the direct storm water effluent streams.

### **Toxicity Testing**

The final effluent of the plant is not acutely lethal to rainbow trout nor to Daphnia magna.



## D SECTOR LOADINGS

Tables 8 and 9 summarize the total loadings discharged from integrated plants and from specialty steel/mini-mills respectively.

The lowest loadings among the integrated plants are those of Stelco Lake Erie Works. This is due to the high rate water recycle systems on each process coupled with state-of-the-art physical/chemical treatment. Stelco Lake Erie Works was built during the period of 1975-82 incorporating advanced technology and extensive water recycling as opposed to the older plants such as Algoma Steel, Dofasco Steel and Stelco Hilton Works.

The loadings of phenolics, ammonia, cyanide and priority pollutants such as non-halogenated volatiles and polyaromatic hydrocarbon compounds from Stelco Hilton Works, did not include those from the ammonia recovery still that are discharged to the Hamilton- Wentworth Sewage Treatment Plant.

Dofasco's total loadings did not include those from finishing operations which were discharged to the Hamilton-Wentworth Sewage Treatment Plant.

Specialty steel/mini-mills discharges do not contain non-halogenated volatile nor polynuclear aromatic hydrocarbon compounds.

The total loadings from all plants in the Iron and Steel sector are:

Dissolved Organic Carbon	8,727 kg/day
Total suspended solids	26,358 kg/day
Oil and Grease	2935 kg/day
Total Cyanide	217 kg/day
Phenolics (4AAP)	58 kg/day
Ammonia	4115 kg/day
Zinc	127 kg/day
Lead	21 kg/day
Nickel	29 kg/day
Sulphide	54 kg/day
Non-halogenated volatiles range from	2.3 to 3.8 kg/day
Polynuclear aromatic hydrocarbons range from	1.6 to 4.1 kg/day



## V CONCLUSIONS

A preliminary data review indicates that the effluent monitoring database is sufficiently extensive for use in the development of the effluent limits for the Iron and Steel Sector.

The total number of conventional and priority pollutants identified were 99 out of 154 for the integrated plants and 42 out of 142 for specialty and mini mills. As a result of a quality control and quality assurance evaluation, some parameters have been identified which may be present as a result of laboratory and/or sampling contamination.

Non-halogenated volatile compounds and polynuclear aromatic hydrocarbon compounds were found in the discharges of the integrated plants but not in the discharges of the specialty steel and mini-mills. The cokemaking operations are the major sources of priority organic pollutants mainly polynuclear aromatic hydrocarbon and non-halogenated volatile compounds within the iron and steel industry. The cokemaking and ironmaking operations are the main sources of phenolics, cyanide and ammonia. The steelmaking operations are major sources of zinc. All plants within the iron and steel sector have treatment systems in place treatment with varying performance efficiencies.

Polychlorinated Biphenyls (PCB's) were not found at any plant.

Octachlorodibenzo-p-dioxin and octachlorodibenzofurans were found in two samples in both the intake (average concentrations of 0.840 ng/L and 0.155 ng/L respectively) and the final discharge (average concentration of 0.400 ng/L and 0.075 ng/L respectively) of Atlas Specialty Steels. Total tetra-, penta-, hexa-, hepta-, and octachlorodibenzofuran were found in one sample at one outfall in Stelco Hilton Works (average concentrations ranging from 0.083 ng/L to 0.930 ng/L) prior to diversion of the process effluent from this outfall in May 1990. Octachlorodibenzofuran was found at two outfalls in one sample each at Algoma Steel (average concentration of 1.000 ng/L and 0.069 ng/L respectively). There are no known sources of these compounds.

Of the 218 samples that were tested with rainbow trout for the integrated plants, 8% of the samples were acutely lethal. Specialty steel and mini-mills discharges were not acutely lethal to rainbow trout.

Of the 217 samples tested with Daphnia magna for the integrated plants, 10% were acutely lethal and 5% indicated some mortality upon diluting the effluent. Of the 31 samples tested with Daphnia magna for specialty steel and mini-mills, 19% were acutely lethal.

During the monitoring period, the Iron and Steel Sector carried out some remedial measures:

Algoma Steel installed and operated a filter plant which resulted in significant reductions in total suspended solids and oil & grease loadings. Although there were some reductions in phenolics loadings, most of the priority pollutants, ammonia and cyanide loadings were not decreased. A biological treatment system has been installed and will be operational in the near future. This system should enhance the removal efficiency of these compounds.

Dofasco Steel introduced a recycling system for the ironmaking processes which reduced the water use by 98%. Loadings of suspended solid, phenolics, ammonia and cyanide were decreased by up to 96%.

Stelco Hilton Works diverted #3 Pickle Line and Acid Regeneration Plant effluent streams from the #1 60 Inch sewer to the East Side Filter Plant. The #1 60 Inch Sewer is now discharging non-contact cooling water.

TABLE 1

PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA
			MINIMUM	MAXIMUM	
---	---	---	---	---	---
2	Cyanide Total	507	76.474	76.688	76.688
6	Total Phosphorus	108	42.853	43.655	42.965
8	Total Suspended Solids	865	2532.135	4312.713	3211.404
	Volatile Suspended Solids	355	.200	3492.927	380.477
9	Aluminum	23	62.391	64.156	62.685
	Chromium	149	.075	.157	.103
	Copper	28	2.103	4.806	4.806
	Lead	319	4.440	5.633	4.986
	Molybdenum	23	1.876	2.218	1.962
	Zinc	558	48.293	48.318	48.305
10	Arsenic	23	3.430	3.430	3.430
	Selenium	13	2.846	3.331	2.894
11	Chromium (hexavalent)	2	3.981	3.981	3.981
14	Phenolics (4AAP)	502	15.429	15.576	15.576
15	Sulphide	117	7.626	14.645	14.645
16	Chloroform	5	.002	.002	.002
17	Benzene	140	.059	.061	.061
	o-Xylene	26	.050	.248	.248
19	Benz(a)anthracene	5	.000	.160	.096
	Benzo(a)pyrene	143	.003	.199	.199
	Benzobutylphthalate	22	.014	.096	.096
	Bis(2-ethylhexyl)phthalate	14	.279	1.021	.717
	Chrysene	5	.000	.096	.096
	Fluoranthene	5	.000	.128	.096
	Naphthalene	139	.015	.024	.021
	Phenanthrene	5	.000	.128	.096
	Pyrene	14	.056	.214	.175
23	1,2,3,4-Tetrachlorobenzene	5	.000	.003	.003
	1,2,3,5-Tetrachlorobenzene	9	.000	.003	.003
	1,2,4,5-Tetrachlorobenzene	9	.000	.003	.003
	1,2,4-Trichlorobenzene	28	.006	.010	.010
	Hexachlorobenzene	18	.004	.006	.006
	Hexachlorocyclopentadiene	5	.000	.003	.003
	Hexachloroethane	5	.000	.003	.003
	Pentachlorobenzene	5	.000	.003	.003
25	Oil and Grease	869	170.282	574.596	470.999
26	Abietic Acid	3	.000	.001	.001
	Chlorodehydroabietic Acid	3	.002	.003	.003
	Dehydroabietic Acid	16	.662	1.076	1.076
	Isopimeric Acid	11	.012	.326	.326
	Oleic Acid	16	1.355	2.833	1.651
4a	Ammonia plus Ammonium	300	2822.547	2823.550	2822.650
	Total Kjeldahl Nitrogen	7	1323.408	1323.408	1323.408
4b	Nitrate+Nitrite	17	329.124	329.226	329.139
5a	DOC	200	1272.284	1272.284	1272.284
5b	TOC	2	4.788	4.788	4.788
1S1	Iron	253	162.169	162.269	162.269

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING

LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day

NOTE: SEE PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA.

TABLE 1.1  
AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 0100 STREAM: BAR & STRIP LAGOON OUTFALL  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	---	---	---	---	---	---
2	Cyanide Total	252	64.659	64.674	64.674	62.543
6	Total Phosphorus	40	4.860	5.661	4.971	4.210
8	Total Suspended Solids	247	1336.447	1423.450	1403.404	653.094
9	Aluminum	9	31.396	31.396	31.396	25.606
	Copper	9	.779	1.584	1.584	.371
	Lead	9	4.388	5.367	4.791	3.468
	Molybdenum	9	1.821	2.160	1.906	1.569
	Zinc	245	42.950	42.967	42.959	38.838
10	Arsenic	8	.820	.820	.820	.250
	Selenium	8	.130	.615	.178	.271
14	Phenolics (4AAP)	246	2.929	2.963	2.963	8.747
15	Sulphide	4	4.582	6.071	6.071	3.782
17	o-Xylene	9	.011	.078	.078	.013
19	Benzobutylphthalate	9	.014	.094	.094	.016
	Bis(2-ethylhexyl)phthalate	9	.109	.301	.222	.056
	Pyrene	9	.015	.068	.055	.029
23	1,2,4-Trichlorobenzene	10	.002	.003	.003	.005
24	Octachlorodibenzofuran (g/day)	1	.013	.013	.013	**
25	Oil and Grease	249	60.039	186.438	140.465	320.993
26	Dehydroabiatic Acid	5	.659	.761	.761	.001
	Oleic Acid	5	.683	1.154	.777	1.282
4a	Ammonia plus Ammonium	44	186.582	186.582	186.582	163.801
	Total Kjeldahl Nitrogen	1	143.698	143.698	143.698	
4b	Nitrate+Nitrite	5	63.401	63.401	63.401	14.558
5a	DOC	100	290.665	290.665	290.665	79.041
IS1	Iron	42	70.504	70.602	70.602	43.689

ATG = ANALYTICAL TEST GROUP  
TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS  
LTA = LONG TERM AVERAGE LOADING  
STD DEV = STANDARD DEVIATION FOR LTA LOADING

\*\* NOTE: Loading for Octachlorodibenzofuran is given in g/day  
NOTE: SEE PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA ,MAXIMUM LTA AND LTA.



TABLE 1.2

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 0400 STREAM: #1 TUBE MILL  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM LTA	MAXIMUM LTA		
2	Cyanide Total	9	.001	.008	.008	.006
6	Total Phosphorus	35	.142	.143	.142	.308
8	Total Suspended Solids	257	12.898	15.231	14.234	19.447
	Volatile Suspended Solids	254	.200	15.571	4.620	5.893
9	Aluminum	9	.068	.069	.068	.049
	Chromium	9	.004	.026	.016	.011
	Copper	9	.011	.018	.018	.014
	Lead	118	.004	.036	.022	.027
	Molybdenum	9	.025	.025	.025	.050
	Zinc	116	.032	.036	.034	.084
10	Arsenic	5	.009	.009	.009	.012
14	Phenolics (4AAP)	9	.006	.008	.008	.007
15	Sulphide	5	.008	.030	.030	.026
17	o-Xylene	7	.000	.001	.001	.001
19	Benzobutylphthalate	9	.000	.001	.001	.001
25	Oil and Grease	258	1.812	2.466	2.236	2.710
26	Dehydroabiatic Acid	5	.001	.002	.002	
	Isopimaric Acid	5	.000	.002	.002	
	Oleic Acid	5	.003	.009	.004	.007
4a	Ammonia plus Ammonium	9	.282	.285	.285	.553
4b	Nitrate+Nitrite	5	.448	.448	.448	.440
5a	DOC	36	5.446	5.446	5.446	5.813
IS1	Iron	37	.821	.823	.823	1.219

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 1.3

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 0700 STREAM: TERMINAL SETTLING BASINS  
FOR THE PERIOD FROM 891101 TO 900415

ATG	PARAMETER	TNS	LOADING RANGE		STD DEV
			MINIMUM LTA	MAXIMUM LTA	
---	-----	---	-----	-----	---
2	Cyanide Total	161	9.786	9.960	10.796
6	Total Phosphorus	25	714.219	714.219	2790.346
8	Total Suspended Solids	159	6847.661	7002.369	3569.100
	Volatile Suspended Solids	159	808.549	3416.177	1230.806
9	Aluminum	6	30.098	30.098	15.694
	Copper	6	.815	3.449	.739
	Zinc	6	2.957	4.088	1.936
10	Arsenic	6	1.143	1.143	.570
	Selenium	6	1.530	1.530	.711
14	Phenolics (4AAP)	160	8.865	8.891	9.562
15	Sulphide	158	17.575	20.374	74.387
17	o-Xylene	5	.000	.158	.012
19	Benz(a)anthracene	5	.030	.158	.025
	Benzo(a)pyrene	5	.036	.190	.015
	Bis(2-ethylhexyl)phthalate	5	.762	1.034	.483
	Chrysene	5	.030	.107	.025
	Fluoranthene	5	.078	.180	.131
	Phenanthrene	5	.036	.138	.038
	Pyrene	5	.072	.174	.117
23	1,2,3,4-Tetrachlorobenzene	5	.001	.003	.001
	1,2,3,5-Tetrachlorobenzene	5	.002	.004	.001
	1,2,4,5-Tetrachlorobenzene	5	.001	.004	.001
	1,2,4-Trichlorobenzene	5	.000	.003	.003
	Hexachlorobenzene	5	.001	.003	.003
	Hexachlorocyclopentadiene	5	.002	.004	.004
	Hexachloroethane	5	.001	.003	.003
	Pentachlorobenzene	5	.001	.003	.003
25	Oil and Grease	161	2618.031	2637.689	7282.174
26	Dehydroabietic Acid	2	1.748	1.748	.001
	Isopimaric Acid	2	.738	.887	.001
	Oleic Acid	2	.829	.829	.497
4a	Ammonia plus Ammonium	160	1336.656	1337.199	840.696
4b	Nitrate+Nitrite	2	260.443	260.443	207.812
5a	DOC	59	1005.883	1005.883	253.910
1S1	Iron	23	137.410	138.257	83.313

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 1.4

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 0700 STREAM: TERMINAL SETTLING BASINS  
FOR THE PERIOD FROM 900416 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	LTA	LTA	---	---
2	Cyanide Total	103	8.983	9.170	9.170	5.944
6	Total Phosphorus	16	37.781	37.781	37.781	25.967
8	Total Suspended Solids	103	62.093	1749.706	671.031	374.040
	Volatile Suspended Solids	101	.000	3477.356	375.857	71.345
9	Aluminum	5	30.927	32.691	31.221	31.928
	Copper	5	1.308	3.195	3.195	1.457
	Zinc	5	4.533	4.533	4.533	2.931
10	Arsenic	5	2.596	2.596	2.596	3.904
	Selenium	5	2.716	2.716	2.716	1.234
11	Chromium (hexavalent)	1	3.966	3.966	3.966	
14	Phenolics (4AAP)	102	3.151	3.260	3.260	3.250
15	Sulphide	104	3.021	8.521	8.521	4.696
17	o-Xylene	5	.039	.169	.169	.018
19	Benz(a)anthracene	5	.000	.160	.096	.007
	Benzo(a)pyrene	5	.000	.192	.192	.014
	Bis(2-ethylhexyl)phthalate	5	.170	.720	.495	.200
	Chrysene	5	.000	.096	.096	.007
	Fluoranthene	5	.000	.128	.096	.007
	Phenanthrene	5	.000	.128	.096	.007
	Pyrene	5	.041	.146	.120	.048
23	1,2,3,4-Tetrachlorobenzene	5	.000	.003	.003	
	1,2,3,5-Tetrachlorobenzene	5	.000	.003	.003	
	1,2,4,5-Tetrachlorobenzene	5	.000	.003	.003	
	1,2,4-Trichlorobenzene	5	.004	.007	.007	.008
	Hexachlorobenzene	5	.004	.006	.006	.002
	Hexachlorocyclopentadiene	5	.000	.003	.003	
	Hexachloroethane	5	.000	.003	.003	
	Pentachlorobenzene	5	.000	.003	.003	
25	Oil and Grease	103	92.929	366.917	310.554	134.111
26	Dehydroabietic Acid	3	.000	.311	.311	
	Isopimaric Acid	3	.000	.311	.311	
	Oleic Acid	3	.667	1.665	.867	.982
4a	Ammonia plus Ammonium	102	2056.788	2057.788	2056.888	939.714
	Total Kjeldahl Nitrogen	2	1179.459	1179.459	1179.459	1559.564
4b	Nitrate+Nitrite	3	265.269	265.269	265.269	151.527
5a	DOC	47	969.520	969.520	969.520	164.446
1S1	Iron	16	78.259	78.259	78.259	110.251

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 1.5  
AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 1800 STREAM: #2 TUBE MILL  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM LTA	MAXIMUM LTA		
---	-----	---	-----	-----	---	---
6	Total Phosphorus	17	.070	.070	.071	.091
8	Total Suspended Solids	116	.924	4.553	2.962	1.379
9	Copper	5	.005	.009	.009	.003
	Lead	52	.009	.029	.023	.015
	Molybdenum	5	.030	.033	.031	.026
	Zinc	52	.034	.034	.034	.063
10	Arsenic	5	.005	.005	.005	.003
11	Chromium (hexavalent)	1	.015	.015	.015	
14	Phenolics (4AAP)	4	.003	.004	.004	.002
15	Sulphide	4	.015	.023	.023	.009
16	Chloroform	5	.002	.002	.002	.002
19	Benzobutylphthalate	4	.000	.001	.001	
24	Octachlorodibenzofuran (g/day)	1	.192	.192	.192	**
25	Oil and Grease	116	1.360	1.654	1.605	1.644
26	Abietic Acid	3	.000	.001	.001	
	Chlorodehydroabietic Acid	3	.002	.003	.003	
	Dehydroabietic Acid	3	.002	.002	.002	
	Isopimaric Acid	3	.012	.013	.013	
	Oleic Acid	3	.002	.005	.003	.003
4a	Ammonia plus Ammonium	4	.127	.127	.127	.170
	Total Kjeldahl Nitrogen	4	.251	.251	.251	.119
4b	Nitrate+Nitrite	4	.006	.108	.021	.001
5a	DOC	17	6.653	6.653	6.653	4.272
5b	TOC	2	4.788	4.788	4.788	.700
IS1	Iron	18	.352	.352	.352	.180

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

\*\* NOTE: The loading for Octachlorodibenzofuran is given in g/day.

TABLE 1.6

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 2000 STREAM: 24 INCH COKE QUENCH EMERGENCY OVERFLOW  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM LTA	MAXIMUM LTA		
---	-----	---	-----	-----	---	---
2	Cyanide Total	143	2.831	2.836	2.836	5.230
8	Total Suspended Solids	142	1119.773	1119.773	1119.773	1143.916
9	Chromium	140	.071	.131	.087	.357
	Lead	140	.039	.201	.150	.053
	Zinc	140	.744	.748	.745	1.016
14	Phenolics (4AAP)	141	9.340	9.341	9.341	13.143
17	Benzene	140	.059	.061	.061	.153
19	Benzo(a)pyrene	138	.003	.007	.007	.022
	Naphthalene	139	.015	.024	.021	.035
25	Oil and Grease	143	14.142	17.121	16.139	29.952
4a	Ammonia plus Ammonium	141	578.768	578.768	578.768	1010.157
IS1	Iron	140	12.233	12.233	12.233	10.960

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 1.7

TOTAL MASS LOADING (kg)  
FROM STORM WATER EFFLUENTS

## ALGOMA STEEL

ATG	PARAMETER	MASS LOADING
---	-----	-----
2	Cyanide Total	.052
8	Total Suspended Solids	7.911
9	Zinc	.040
14	Phenolics (4AAP)	.015
25	Oil and Grease	1.484
4a	Ammonia plus Ammonium	.647
1S1	Iron	.263

## NOTE:

Total Discharge Duration	123.000 hrs
Total Volume Discharged	2153.000 m <sup>3</sup>

TABLE 2

PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	LOADING RANGE		LTA
			MINIMUM LTA	MAXIMUM LTA	
---	-----	---	-----	-----	---
2	Cyanide Total	120	103.933	103.966	103.946
6	Total Phosphorus	120	36.030	43.432	38.250
8	Total Suspended Solids	835	16557.708	16560.259	16558.728
	Volatile Suspended Solids	835	4068.457	4110.647	4076.163
9	Aluminum	29	193.447	193.447	193.447
	Cadmium	29	.181	1.196	1.129
	Chromium	120	9.804	15.749	12.760
	Copper	29	8.173	10.958	10.958
	Lead	6	3.240	10.631	10.051
	Molybdenum	29	10.696	13.948	13.743
	Nickel	29	6.756	14.453	10.564
	Thallium	29	10.147	23.624	18.735
	Vanadium	11	1.021	4.362	1.991
	Zinc	120	24.575	25.598	25.598
10	Antimony	4	1.023	1.458	1.284
	Arsenic	12	.047	.413	.266
	Selenium	4	1.885	1.885	1.885
11	Chromium (hexavalent)	4	1.586	1.586	1.586
12	Mercury	22	.026	.053	.031
14	Phenolics (4AAP)	117	31.002	31.093	31.084
15	Sulphide	10	16.550	16.550	16.550
16	1,2-Dichloroethane	12	.359	.417	.388
17	Toluene	4	.000	.172	.138
19	Benz(a)anthracene	15	.124	.273	.184
	Benzo(a)pyrene	15	.063	.295	.256
	Benzo(b)fluoranthene	4	.112	.232	.180
	Benzo(g,h,i)perylene	11	.013	.103	.065
	Benzo(k)fluoranthene	4	.107	.285	.209
	Bis(2-ethylhexyl)phthalate	27	.168	1.234	.846
	Chrysene	15	.184	.222	.222
	Di-n-octyl Phthalate	23	.192	.547	.334
	Fluoranthene	15	.194	.245	.219
	Phenanthrene	15	.046	.203	.163
	Pyrene	15	.185	.271	.249
23	1,2,4-Trichlorobenzene	12	.000	.001	.001
	Hexachlorobenzene	15	.000	.004	.002
	Hexachloroethane	23	.003	.005	.003
	Pentachlorobenzene	15	.000	.004	.001
25	Oil and Grease	835	479.817	773.019	762.502
26	Oleic Acid	4	.001	.569	.501
4a	Ammonia plus Ammonium	120	665.292	668.134	666.702
	Total Kjeldahl Nitrogen	10	1103.743	1103.743	1103.743
4b	Nitrate+Nitrite	10	1062.670	1062.670	1062.670
5a	DOC	282	2686.698	2686.698	2686.698
5b	TOC	10	2708.060	2708.060	2708.060
1S1	Iron	120	996.085	996.085	996.085

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING

LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 2.1

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0100 STREAM: EAST BOAT SLIP SEWER  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	-----	-----	---	---
2	Cyanide Total	50	6.171	6.171	6.171	3.691
6	Total Phosphorus	50	4.968	5.082	5.002	2.438
8	Total Suspended Solids	341	766.367	766.367	766.367	416.034
	Volatile Suspended Solids	341	386.860	394.135	387.796	148.268
9	Aluminum	12	19.826	19.826	19.826	14.912
	Cadmium	12	.066	.187	.175	.055
	Chromium	50	1.949	2.101	2.009	1.148
	Copper	12	2.393	2.653	2.653	5.377
	Molybdenum	12	1.191	1.780	1.575	.647
	Nickel	12	.255	1.461	.855	.248
	Thallium	12	1.438	2.405	2.056	1.417
	Zinc	50	2.081	2.350	2.350	2.973
10	Arsenic	12	.047	.413	.266	.118
11	Chromium (hexavalent)	4	1.586	1.586	1.586	.579
12	Mercury	12	.001	.008	.002	.002
14	Phenolics (4AAP)	49	1.628	1.660	1.653	1.670
15	Sulphide	4	1.201	1.201	1.201	.493
16	1,2-Dichloroethane	12	.359	.417	.388	1.233
19	Bis(2-ethylhexyl)phthalate	12	.063	.167	.129	.060
	Di-n-octyl Phthalate	12	.065	.198	.118	.180
23	1,2,4-Trichlorobenzene	12	.000	.001	.001	
	Hexachloroethane	12	.003	.004	.003	.005
25	Oil and Grease	341	68.168	108.386	102.826	97.150
4a	Ammonia plus Ammonium	50	64.421	64.421	64.421	35.226
	Total Kjeldahl Nitrogen	4	114.861	114.861	114.861	66.305
4b	Nitrate+Nitrite	4	145.234	145.234	145.234	42.389
5a	DOC	111	375.481	375.481	375.481	
5b	TOC	4	321.442	321.442	321.442	80.519
IS1	Iron	50	34.846	34.846	34.846	26.375

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA



TABLE 2.2

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0200 STREAM: OTTAWA STREET SEWER  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	LTA	LTA	---	---
2	Cyanide Total	48	2.266	2.299	2.279	3.176
6	Total Phosphorus	48	9.436	10.630	9.794	5.349
8	Total Suspended Solids	331	4130.958	4133.509	4131.978	9935.806
	Volatile Suspended Solids	331	1149.833	1164.795	1152.612	2020.686
9	Aluminum	11	102.175	102.175	102.175	231.586
	Cadmium	11	.115	.340	.314	.187
	Chromium	48	3.367	4.091	3.729	4.198
	Copper	11	3.785	4.639	4.639	8.774
	Molybdenum	11	3.134	3.623	3.623	2.360
	Nickel	11	.903	2.990	1.938	1.841
	Thallium	11	8.709	11.180	10.277	20.200
	Vanadium	11	1.021	4.362	1.991	2.076
	Zinc	48	5.466	5.925	5.925	6.756
12	Mercury	6	.004	.015	.006	.010
14	Phenolics (4AAP)	47	3.202	3.261	3.259	4.575
15	Sulphide	4	2.219	2.219	2.219	2.090
19	Benz(a)anthracene	11	.010	.074	.036	.027
	Benzo(a)pyrene	11	.012	.089	.076	.031
	Benzo(g,h,i)perylene	11	.013	.103	.065	.034
	Bis(2-ethylhexyl)phthalate	11	.105	.311	.236	.125
	Chrysene	11	.012	.050	.050	.030
	Di-n-octyl Phthalate	11	.127	.349	.216	.292
	Fluoranthene	11	.017	.068	.042	.047
	Phenanthrene	11	.013	.065	.052	.035
	Pyrene	11	.023	.075	.062	.066
23	Hexachlorobenzene	11	.000	.001	.001	.001
	Hexachloroethane	11	.000	.001	.000	.000
	Pentachlorobenzene	11	.000	.001	.000	.000
25	Oil and Grease	331	237.286	284.487	279.530	315.496
26	Oleic Acid	4	.001	.569	.501	.352
4a	Ammonia plus Ammonium	48	52.206	55.048	53.616	32.705
	Total Kjeldahl Nitrogen	4	125.676	125.676	125.676	149.114
4b	Nitrate+Nitrite	4	201.497	201.497	201.497	205.253
5a	DOC	102	734.872	734.872	734.872	
5b	TOC	4	653.308	653.308	653.308	613.091
IS1	Iron	48	466.206	466.206	466.206	394.305

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 2.3

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0400 STREAM: WEST BAY FRONT SEWER  
FOR THE PERIOD FROM 891101 TO 900430

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
			LTA	LTA		
2	Cyanide Total	25	88.427	88.427	88.427	100.475
6	Total Phosphorus	25	35.972	35.972	35.972	20.622
8	Total Suspended Solids	164	9285.496	9285.496	9285.496	6836.263
	Volatile Suspended Solids	164	2239.924	2266.506	2242.582	808.393
9	Aluminum	6	159.463	159.463	159.463	79.268
	Cadmium	6	.702	1.075	1.075	.634
	Chromium	25	4.526	7.737	5.926	3.134
	Copper	6	18.283	18.808	18.808	29.492
	Lead	6	4.593	13.640	13.640	6.871
	Molybdenum	6	8.243	8.243	8.243	3.999
	Nickel	6	.000	7.563	3.476	.941
	Thallium	6	12.917	14.491	13.966	4.342
	Zinc	25	95.254	95.540	95.540	69.889
10	Antimony	6	.468	1.774	1.251	.188
	Selenium	6	2.147	2.147	2.147	.429
12	Mercury	6	.048	.074	.053	.107
14	Phenolics (4AAP)	25	11.125	11.125	11.125	12.449
15	Sulphide	2	44.390	44.390	44.390	47.643
17	Toluene	6	.105	.261	.230	.197
19	Benz(a)anthracene	6	.048	.176	.099	.041
	Benzo(a)pyrene	6	.000	.227	.189	.024
	Benzo(b)fluoranthene	6	.032	.252	.158	.026
	Benzo(k)fluoranthene	6	.052	.271	.177	.068
	Bis(2-ethylhexyl)phthalate	6	.189	.887	.633	.255
	Chrysene	6	.062	.139	.139	.049
	Fluoranthene	6	.186	.186	.186	.077
	Phenanthrene	6	.000	.151	.113	.015
	Pyrene	6	.168	.193	.186	.060
23	Hexachlorobenzene	6	.001	.004	.002	.001
	Pentachlorobenzene	6	.001	.004	.001	.001
25	Oil and Grease	164	271.963	487.730	420.060	321.062
4a	Ammonia plus Ammonium	25	659.943	659.943	659.943	186.571
	Total Kjeldahl Nitrogen	2	545.672	545.672	545.672	252.075
4b	Nitrate+Nitrite	2	812.733	812.733	812.733	214.629
5a	DOC	34	1931.658	1931.658	1931.658	
5b	TOC	2	1793.442	1793.442	1793.442	711.326
IS1	Iron	25	1503.431	1503.431	1503.431	858.218

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 2.4

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0400 STREAM: WEST BAY FRONT SEWER  
FOR THE PERIOD FROM 900501 TO 901031

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
			LTA	LTA		
---	-----	---	-----	-----	---	---
2	Cyanide Total	22	95.496	95.496	95.496	41.081
6	Total Phosphorus	22	21.626	27.720	23.454	27.342
8	Total Suspended Solids	163	11660.383	11660.383	11660.383	13222.458
	Volatile Suspended Solids	163	2531.764	2551.717	2535.755	1302.286
9	Aluminum	6	71.446	71.446	71.446	37.805
	Cadmium	6	.000	.669	.640	.065
	Chromium	22	4.488	9.557	7.022	16.199
	Copper	6	1.995	3.666	3.666	1.536
	Lead	6	3.240	10.631	10.051	2.349
	Molybdenum	6	6.371	8.545	8.545	3.187
	Nickel	6	5.598	10.002	7.771	9.294
	Thallium	6	.000	10.039	6.402	.652
	Zinc	22	17.028	17.323	17.323	13.579
10	Antimony	4	1.023	1.458	1.284	.306
	Selenium	4	1.885	1.885	1.885	.652
12	Mercury	4	.021	.030	.023	.014
14	Phenolics (4AAP)	21	26.172	26.172	26.172	21.023
15	Sulphide	2	13.130	13.130	13.130	3.489
17	Toluene	4	.000	.172	.138	.004
19	Benz(a)anthracene	4	.114	.199	.148	.103
	Benzo(a)pyrene	4	.051	.206	.180	.017
	Benzo(b)fluoranthene	4	.112	.232	.180	.064
	Benzo(k)fluoranthene	4	.107	.285	.209	.145
	Bis(2-ethylhexyl)phthalate	4	.000	.756	.481	.015
	Chrysene	4	.172	.172	.172	.053
	Fluoranthene	4	.177	.177	.177	.149
	Phenanthrene	4	.033	.138	.111	.014
	Pyrene	4	.162	.196	.187	.100
23	Hexachlorobenzene	4	.000	.003	.001	.001
	Pentachlorobenzene	4	.000	.003	.001	.001
25	Oil and Grease	163	174.363	380.146	380.146	132.136
4a	Ammonia plus Ammonium	22	548.665	548.665	548.665	204.761
	Total Kjeldahl Nitrogen	2	863.206	863.206	863.206	14.422
4b	Nitrate+Nitrite	2	715.939	715.939	715.939	394.901
5a	DOC	69	1576.345	1576.345	1576.345	422.952
5b	TOC	2	1733.310	1733.310	1733.310	239.656
1s1	Iron	22	495.033	495.033	495.033	508.713

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 2.5

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0500 STREAM: BAY WATER INTAKE  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	LTA	LTA	---	---
2	Cyanide Total	151	10.447	10.514	10.474	6.686
6	Total Phosphorus	51	25.603	33.365	27.931	9.758
8	Total Suspended Solids	355	2982.109	3050.673	3002.925	1438.613
9	Aluminum	12	117.765	117.765	117.765	55.552
	Boron	2	35.003	35.003	35.003	.945
	Cadmium	12	.259	1.247	1.177	.393
	Chromium	152	6.710	14.332	10.455	26.894
	Copper	12	9.060	10.767	10.767	13.338
	Lead	151	2.904	19.378	18.986	8.591
	Molybdenum	12	13.640	16.891	16.031	10.422
	Nickel	12	4.064	13.009	8.510	9.798
	Thallium	12	7.865	19.053	15.059	4.031
	Zinc	152	17.455	19.245	19.245	26.804
10	Selenium	12	.467	2.784	1.857	.590
14	Phenolics (4AAP)	148	13.576	13.813	13.797	18.482
15	Sulphide	4	8.398	11.435	9.916	3.690
16	Bromodichloromethane	12	.000	.232	.232	.036
17	Benzene	51	.116	.402	.231	.812
19	Benzo(a)pyrene	51	2.854	3.189	3.133	14.091
	Bis(2-ethylhexyl)phthalate	12	.373	1.441	1.053	.584
	Di-n-octyl Phthalate	12	.904	1.705	1.224	1.471
	Naphthalene	51	.055	.979	.228	.370
23	1,2,3,4-Tetrachlorobenzene	12	.018	.021	.020	.018
	1,2,3-Trichlorobenzene	12	.016	.019	.019	.017
	1,2,4,5-Tetrachlorobenzene	12	.001	.006	.003	.001
	1,2,4-Trichlorobenzene	12	.041	.044	.043	.043
	2,4,5-Trichlorotoluene	12	.002	.007	.003	.005
	Hexachloroethane	12	.005	.011	.006	.018
	Octachlorostyrene	12	.004	.010	.006	.015
	Pentachlorobenzene	12	.001	.005	.002	.001
25	Oil and Grease	354	488.262	830.364	796.487	652.232
4a	Ammonia plus Ammonium	151	497.907	501.502	500.391	259.126
	Total Kjeldahl Nitrogen	4	770.329	770.329	770.329	220.139
4b	Nitrate+Nitrite	4	1132.292	1132.292	1132.292	292.743
5a	DOC	113	2877.809	2877.809	2877.809	
5b	TOC	4	3105.822	3105.822	3105.822	1217.969
151	Iron	50	251.235	251.235	251.235	385.540

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 2.6

TOTAL MASS LOADING (kg)  
FOR STORM WATER AND STORAGE SITE EFFLUENTS

DOFASCO INC.

ATG	PARAMETER	MASS LOADING
---	-----	-----
2	Cyanide Total	.439
8	Total Suspended Solids	1309.675
	Volatile Suspended Solids	727.477
9	Chromium	.149
	Lead	.222
	Zinc	2.662
14	Phenolics (4AAP)	1.678
17	Benzene	.009
19	Benzo(a)pyrene	.061
	Naphthalene	.607
25	Oil and Grease	10.885
4a	Ammonia plus Ammonium	29.799
IS1	Iron	58.288

## NOTE:

Total Discharge Duration	732.000 hrs
Total Volume Discharged	4548.000 hrs

TABLE 3  
PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS  
STELCO STEEL HILTON WORKS  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA
			MINIMUM LTA	MAXIMUM LTA	
2	Cyanide Total	311	34.809	35.106	34.929
6	Total Phosphorus	84	20.986	28.745	23.202
8	Total Suspended Solids	1077	4955.607	6344.212	6172.588
	Volatile Suspended Solids	132	698.673	826.562	735.410
9	Aluminum	37	216.853	216.853	216.853
	Cadmium	37	1.504	2.612	2.588
	Chromium	232	6.954	9.199	7.352
	Cobalt	27	2.560	13.859	4.955
	Copper	37	28.637	30.215	29.458
	Lead	232	2.284	17.172	5.358
	Molybdenum	18	6.107	7.641	6.567
	Nickel	27	13.486	16.732	15.002
	Vanadium	37	55.220	55.972	55.320
	Zinc	498	46.594	46.944	46.812
10	Arsenic	9	.398	2.195	1.218
11	Chromium (hexavalent)	6	.387	.995	.751
14	Phenolics (4AAP)	340	11.146	11.542	11.542
15	Sulphide	14	12.936	22.854	22.358
16	1,1,2-Trichloroethane	19	.031	.253	.253
	Bromoform	5	.133	.253	.146
	Chloroform	18	.232	.532	.403
	Dibromochloromethane	23	.331	.959	.560
17	Benzene	224	1.896	2.167	2.004
	Styrene	9	.032	.235	.194
	Toluene	9	.180	.384	.343
	m-Xylene and p-Xylene	9	.089	.540	.294
	o-Xylene	9	.066	.244	.209
19	2,6-Dinitrotoluene	18	.054	.362	.318
	4-Bromophenyl Phenyl Ether	19	.016	.127	.127
	4-Chlorophenyl Phenyl Ether	19	.047	.381	.381
	Benz(a)anthracene	5	.030	.047	.036
	Benzo(a)pyrene	169	.022	.308	.261
	Benzo(b)fluoranthene	5	.035	.058	.048
	Benzo(k)fluoranthene	5	.052	.075	.065
	Benzobutylphthalate	19	.031	.253	.253
	Chrysene	19	.047	.150	.150
	Di-n-octyl Phthalate	23	.812	1.592	1.124
	Fluoranthene	10	.129	.187	.158
	Indole	9	.120	.893	.608
	Phenanthrene	5	.052	.060	.058
	Pyrene	10	.105	.164	.150
20	2,3,4,5-Tetrachlorophenol	10	.014	.104	.104
	4-Nitrophenol	10	.051	.363	.363

ATG = ANALYTICAL TEST GROUP  
TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING  
LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day  
NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3 (continued)

PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA
			MINIMUM LTA	MAXIMUM LTA	
---	---	---	---	---	---
20	p-Cresol	10	.128	.907	.907
23	1,2,3,4-Tetrachlorobenzene	9	.000	.001	.001
	1,2,4-Trichlorobenzene	14	.001	.002	.002
	Hexachlorobenzene	14	.001	.002	.001
	Hexachlorocyclopentadiene	9	.001	.005	.003
	Hexachloroethane	32	.010	.017	.011
	Pentachlorobenzene	18	.001	.005	.002
25	Oil and Grease	1073	1494.229	1610.327	1605.684
4a	Ammonia plus Ammonium	302	615.760	632.640	623.367
	Total Kjeldahl Nitrogen	20	805.940	809.402	806.632
4b	Nitrate+Nitrite	14	2000.309	2000.309	2000.309
5a	DOC	388	4347.301	4348.249	4348.106
5b	TOC	14	4527.855	4527.855	4527.855
IS1	Iron	195	591.344	591.417	591.417

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING

LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3.1

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 0100 STREAM: WEST SIDE OPEN CUT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	-----	-----	---	---
2	Cyanide Total	72	3.422	3.422	3.422	2.981
6	Total Phosphorus	23	2.937	3.681	3.159	1.465
8	Total Suspended Solids	140	473.014	474.598	474.534	202.190
9	Aluminum	5	10.629	10.629	10.629	8.852
	Cadmium	5	.092	.158	.155	.111
	Chromium	57	.650	.813	.684	.605
	Copper	5	.696	.917	.813	.613
	Lead	57	.245	1.515	.510	.461
	Vanadium	5	5.852	5.852	5.852	2.999
	Zinc	73	3.089	3.098	3.097	1.903
11	Chromium (hexavalent)	3	.243	.595	.454	.240
14	Phenolics (4AAP)	72	.940	.944	.944	1.846
15	Sulphide	3	1.096	1.443	1.425	.804
16	1,1,2-Trichloroethane	5	.007	.033	.033	.004
	Bromoform	5	.133	.253	.146	.280
	Dibromochloromethane	5	.080	.115	.093	.159
	Benzene	53	.043	.067	.052	.123
17	4-Bromophenyl Phenyl Ether	5	.003	.017	.017	.002
	4-Chlorophenyl Phenyl Ether	5	.010	.050	.050	.006
	Benz(a)anthracene	5	.030	.047	.036	.039
	Benzo(a)pyrene	53	.018	.041	.038	.018
	Benzo(b)fluoranthene	5	.035	.058	.048	.057
	Benzo(k)fluoranthene	5	.052	.075	.065	.071
	Benzobutylphthalate	5	.007	.033	.033	.004
	Chrysene	5	.034	.040	.040	.030
	Fluoranthene	5	.102	.106	.104	.105
	Phenanthrene	5	.052	.060	.058	.053
	Pyrene	5	.080	.085	.084	.071
20	2,3,4,5-Tetrachlorophenol	5	.004	.022	.022	.003
	4-Nitrophenol	5	.015	.077	.077	.009
	p-Cresol	5	.038	.193	.193	.023
25	Oil and Grease	140	82.313	94.597	94.106	57.093
4a	Ammonia plus Ammonium	73	46.482	46.854	46.586	21.489
	Total Kjeldahl Nitrogen	3	65.693	65.693	65.693	6.988
4b	Nitrate+Nitrite	3	158.227	158.227	158.227	36.761
5a	DOC	57	258.266	258.266	258.266	98.344
5b	TOC	3	328.853	328.853	328.853	60.585
151	Iron	39	21.469	21.469	21.469	13.186

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA



TABLE 3.2

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 0200 STREAM: NORTHWEST OUTFALL  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	LTA	LTA	---	---
2	Cyanide Total	74	11.942	11.996	11.964	15.900
6	Total Phosphorus	23	17.800	21.644	18.984	28.377
8	Total Suspended Solids	132	1580.607	1608.061	1606.963	942.822
	Volatile Suspended Solids	132	698.673	826.562	735.410	356.226
9	Aluminum	5	58.571	58.571	58.571	46.857
	Cadmium	5	.494	.673	.669	.446
	Chromium	58	1.734	2.284	1.844	1.297
	Copper	5	4.135	4.563	4.362	5.343
	Lead	58	.806	4.438	1.564	1.238
	Vanadium	5	12.238	12.238	12.238	6.287
	Zinc	74	12.605	12.643	12.639	14.718
14	Phenolics (4AAP)	74	2.043	2.074	2.074	3.627
15	Sulphide	2	4.672	6.875	6.765	3.647
16	1,1,2-Trichloroethane	5	.015	.122	.122	.026
17	Benzene	54	.280	.340	.304	.723
19	4-Bromophenyl Phenyl Ether	5	.008	.061	.061	.013
	4-Chlorophenyl Phenyl Ether	5	.023	.184	.184	.039
	Benzobutylphthalate	5	.015	.122	.122	.026
	Chrysene	5	.008	.061	.061	.013
	Fluoranthene	5	.027	.081	.054	.032
	Pyrene	5	.025	.079	.066	.018
20	2,3,4,5-Tetrachlorophenol	5	.010	.082	.082	.017
	4-Nitrophenol	5	.036	.286	.286	.060
	p-Cresol	5	.090	.714	.714	.151
23	1,2,4-Trichlorobenzene	5	.001	.002	.002	.001
	Hexachlorobenzene	5	.001	.002	.001	.001
	Hexachloroethane	5	.003	.004	.003	.007
25	Oil and Grease	130	267.789	317.418	315.433	483.046
4a	Ammonia plus Ammonium	74	175.335	176.485	175.848	111.051
	Total Kjeldahl Nitrogen	2	150.822	150.822	150.822	1.440
4b	Nitrate+Nitrite	2	462.255	462.255	462.255	125.151
5a	DOC	58	818.951	818.951	818.951	455.524
5b	TOC	2	994.215	994.215	994.215	377.913
1S1	Iron	39	104.915	104.915	104.915	109.013

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3.3

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 0400 STREAM: NORTH OUTFALL  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	LTA	LTA	---	---
2	Cyanide Total	39	3.987	4.064	4.018	6.558
8	Total Suspended Solids	266	1054.734	1285.031	1270.713	797.218
9	Aluminum	9	31.440	31.440	31.440	19.926
	Cadmium	9	.029	.324	.319	.065
	Cobalt	9	1.346	3.799	1.862	3.617
	Copper	9	4.748	5.147	4.947	4.688
	Molybdenum	9	1.818	2.319	1.968	.612
	Nickel	9	3.522	3.522	3.522	1.586
	Vanadium	9	11.355	12.107	11.455	6.481
	Zinc	117	7.100	7.183	7.145	7.844
14	Phenolics (4AAP)	39	1.139	1.299	1.299	1.988
15	Sulphide	3	2.291	3.378	3.324	.579
16	1,1,2-Trichloroethane	9	.009	.098	.098	.018
	Dibromochloromethane	9	.035	.180	.088	.060
19	4-Bromophenyl Phenyl Ether	9	.005	.049	.049	.009
	4-Chlorophenyl Phenyl Ether	9	.014	.147	.147	.027
	Benzobutylphthalate	9	.009	.098	.098	.018
	Chrysene	9	.005	.049	.049	.009
	Di-n-octyl Phthalate	9	.438	.616	.509	.951
23	Hexachloroethane	9	.001	.003	.002	.004
25	Oil and Grease	266	271.211	294.563	293.629	159.014
4a	Ammonia plus Ammonium	39	112.177	117.192	114.505	75.294
	Total Kjeldahl Nitrogen	3	183.644	183.644	183.644	67.111
4b	Nitrate+Nitrite	3	383.020	383.020	383.020	13.157
5a	DOC	117	903.627	903.627	903.627	840.196
5b	TOC	3	897.647	897.647	897.647	569.683
1S1	Iron	39	70.561	70.561	70.561	47.742

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3.4

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 0601 STREAM: EAST SIDE FILTER PLANT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM	MAXIMUM		
---	-----	---	LTA	LTA	---	---
2	Cyanide Total	117	15.217	15.297	15.249	8.400
8	Total Suspended Solids	271	1761.683	2813.092	2666.325	2542.454
9	Aluminum	9	106.469	106.469	106.469	50.653
	Cadmium	9	.842	1.347	1.337	1.310
	Chromium	117	4.570	6.102	4.824	3.847
	Cobalt	9	.998	9.179	2.736	2.349
	Copper	9	18.189	18.629	18.422	13.809
	Lead	117	1.233	11.219	3.284	2.321
	Molybdenum	9	4.289	5.322	4.599	2.222
	Nickel	9	9.543	12.551	10.946	5.713
	Vanadium	9	23.887	23.887	23.887	14.246
	Zinc	117	22.821	22.940	22.889	15.546
10	Arsenic	9	.398	2.195	1.218	.563
14	Phenolics (4AAP)	117	6.924	7.072	7.072	7.961
15	Sulphide	3	4.618	10.359	10.072	3.340
16	Chloroform	9	.210	.496	.373	.568
	Dibromochloromethane	9	.216	.664	.379	.585
17	Benzene	117	1.573	1.760	1.648	6.904
	Styrene	9	.032	.235	.194	.037
	Toluene	9	.180	.384	.343	.478
	m-Xylene and p-Xylene	9	.089	.540	.294	.192
	o-Xylene	9	.066	.244	.209	.060
19	2,6-Dinitrotoluene	9	.052	.337	.296	.065
	Benzo(a)pyrene	116	.004	.267	.223	.038
	Di-n-octyl Phthalate	5	.352	.901	.572	.314
	Indole	9	.120	.893	.608	.180
23	Hexachlorocyclopentadiene	9	.001	.005	.003	.001
	Hexachloroethane	9	.006	.009	.006	.011
	Pentachlorobenzene	9	.001	.005	.002	.002
25	Oil and Grease	270	846.667	866.504	865.711	424.894
4a	Ammonia plus Ammonium	116	281.766	292.109	286.428	167.497
	Total Kjeldahl Nitrogen	3	397.976	397.976	397.976	80.903
4b	Nitrate+Nitrite	3	984.677	984.677	984.677	330.368
5a	DOC	117	2230.898	2230.898	2230.898	1529.320
5b	TOC	3	2193.607	2193.607	2193.607	918.588
1S1	Iron	39	375.964	375.964	375.964	319.619

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3.5

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 1100    STREAM: #2 ROD MILL  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM LTA	MAXIMUM LTA		
---	-----	---	-----	-----	---	---
2	Cyanide Total	9	.241	.327	.276	.419
6	Total Phosphorus	38	.249	3.420	1.059	.818
8	Total Suspended Solids	268	85.569	163.430	154.053	121.725
9	Aluminum	9	9.744	9.744	9.744	7.324
	Cadmium	9	.047	.110	.108	.117
	Cobalt	9	.216	.881	.357	.597
	Copper	9	.869	.959	.914	.708
	Nickel	9	.421	.659	.534	.191
	Vanadium	9	1.888	1.888	1.888	.935
	Zinc	117	.979	1.080	1.042	3.094
11	Chromium (hexavalent)	3	.144	.400	.297	.116
14	Phenolics (4AAP)	38	.100	.153	.153	.150
15	Sulphide	3	.259	.799	.772	.049
16	Chloroform	9	.022	.036	.030	.019
19	2,6-Dinitrotoluene	9	.002	.025	.022	.003
	Di-n-octyl Phthalate	9	.022	.075	.043	.035
23	1,2,3,4-Tetrachlorobenzene	9	.000	.001	.001	.001
	Hexachloroethane	9	.000	.001	.000	.001
25	Oil and Grease	267	26.249	37.245	36.805	26.181
4a	Total Kjeldahl Nitrogen	9	7.805	11.267	8.497	6.079
4b	Nitrate+Nitrite	3	12.130	12.130	12.130	4.773
5a	DOC	39	135.559	136.507	136.364	245.956
5b	TOC	3	113.533	113.533	113.533	70.391
151	Iron	39	18.435	18.508	18.508	12.149

ATG        = ANALYTICAL TEST GROUP

TNS        = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA        = LONG TERM AVERAGE LOADING

STD DEV    = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3.6

AVERAGE LOADINGS (Kg/day)  
( ELIMINATED FROM TABLE 3 DUE TO THE CLOSURE OF THE 20 INCH MILL )

## CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 1200 STREAM: 20 INCH MILL

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM LTA	MAXIMUM LTA		
2	Cyanide Total	2	.078	.078	.078	.069
8	Total suspended solids	145	49.471	50.316	50.282	35.255
	Volatile Suspended Solids	145	12.192	20.845	14.900	7.993
9	Aluminum	6	1.487	1.487	1.487	.624
	Cadmium	6	.010	.016	.016	.022
	Copper	6	.142	.142	.142	.122
	Lead	66	.002	.105	.023	.011
	Nickel	6	.095	.095	.095	.108
	Vanadium	6	.217	.217	.217	.177
	Zinc	66	.166	.167	.167	.173
11	Chromium (hexavalent)	2	.047	.063	.056	.052
14	Phenolics (4AAP)	21	.009	.015	.015	.014
15	Sulphide	2	.032	.065	.064	.001
23	Pentachlorobenzene	6	.000	.000	.000	
25	Oil and grease	145	13.281	13.327	13.325	8.052
4a	Ammonia plus Ammonium	2	1.593	1.593	1.593	.759
	Total Kjeldahl nitrogen	2	3.143	3.143	3.143	3.086
4b	Nitrate+Nitrite	2	5.897	5.897	5.897	1.545
5a	DOC	21	17.237	17.237	17.237	10.939
	TOC	2	17.619	17.619	17.619	12.680
IS1	Iron	21	4.273	4.282	4.282	7.813

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3.7

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 1600 STREAM: BAY WATER INTAKE  
FOR THE PERIOD FROM 891101 TO 900811

ATG	PARAMETER	TNS	LOADING RANGE		LTA
			MINIMUM LTA	MAXIMUM LTA	
---	-----	---	-----	-----	---
2	Cyanide Total	41	16.060	16.330	16.170
6	Total Phosphorus	2	24.200	72.590	48.395
8	Total Suspended Solids	90	5009.180	5009.180	5009.180
	Volatile Suspended Solids	90	2179.850	2659.850	2319.050
9	Aluminum	2	57.682	57.682	57.682
	Chromium	36	8.460	9.620	8.700
	Copper	2	46.699	46.699	46.699
	Lead	36	4.030	22.590	7.810
	Molybdenum	2	5.735	5.735	5.735
	Nickel	2	19.841	19.481	19.481
	Vanadium	2	61.313	61.313	61.313
	Zinc	41	32.680	33.350	32.880
14	Phenolics (4AAP)	31	2.040	2.470	2.470
17	Benzene	43	6.810	7.070	6.910
19	Benzo(a)pyrene	43	0.000	0.480	0.400
	Naphthalene	43	0.000	1.280	0.240
25	Oil and Grease	90	1383.260	1410.640	1408.750
4a	Ammonia plus Ammonium	41	618.120	658.930	620.510
5a	DOC	41	5548.420	5548.420	5548.420
151	Iron	14	224.390	224.390	224.390

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 3.8

TOTAL MASS LOADING (kg)  
FOR EMERGENCY OVERFLOW EFFLUENTS

STELCO STEEL HILTON WORKS

ATG	PARAMETER	MASS LOADING
---	-----	-----
2	Cyanide Total	12.746
8	Total Suspended Solids	48119.420
8	Volatile Suspended Solids	8961.623
9	Chromium	2.803
9	Lead	36.127
9	Zinc	93.938
14	Phenolics (4AAP)	2.207
17	Benzene	1.589
19	Benzo(a)pyrene	.463
19	Naphthalene	9.206
4a	Ammonia plus Ammonium	40.442
25	Oil and Grease	212.639
IS1	Iron	1339.268

## NOTE:

Total Discharge Duration	2.520 hrs
Total Volume Discharged	40547.000 m3

TABLE 4

PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL LAKE ERIE WORKS  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	LOADING RANGE		LTA
			MINIMUM	MAXIMUM	
---	-----	---	-----	-----	---
2	Cyanide Total	115	1.345	1.367	1.364
6	Total Phosphorus	38	3.135	4.925	4.567
8	Total Suspended Solids	268	218.288	254.476	252.325
9	Aluminum	9	11.517	11.517	11.517
	Cadmium	37	.227	.268	.268
	Chromium	40	.276	.363	.293
	Copper	40	.351	.396	.364
	Lead	39	.454	1.196	.620
	Molybdenum	9	.548	.548	.548
	Nickel	9	.290	.605	.432
	Vanadium	9	1.176	1.274	1.274
	Zinc	39	2.984	3.021	3.018
10	Selenium	9	.581	.581	.581
11	Chromium (hexavalent)	3	.167	.403	.403
12	Mercury	9	.017	.017	.017
14	Phenolics (4AAP)	115	.046	.068	.064
15	Sulphide	3	.467	.943	.919
16	Bromoform	9	1.092	1.106	1.093
	Bromomethane	9	.012	.120	.082
	Chloroform	9	.098	.103	.101
	Dibromochloromethane	9	.801	.801	.801
	Methylene Chloride	9	.036	.073	.045
19	Bis(2-ethylhexyl)phthalate	9	.020	.083	.060
23	1,2,3,4-Tetrachlorobenzene	9	.000	.030	.030
	1,2,3,5-Tetrachlorobenzene	9	.000	.018	.018
	1,2,3-Trichlorobenzene	9	.000	.028	.028
	1,2,4-Trichlorobenzene	9	.000	.018	.017
	1,2,4,5-Tetrachlorobenzene	9	.000	.020	.020
	1,2,4-Trichlorobenzene	9	.000	.020	.020
	2,4,5-Trichlorotoluene	9	.000	.009	.009
	Hexachlorobenzene	9	.000	.010	.010
	Hexachlorobutadiene	9	.000	.008	.008
	Hexachlorocyclopentadiene	9	.000	.016	.016
	Hexachloroethane	9	.000	.006	.006
	Octachlorostyrene	9	.000	.009	.009
	Pentachlorobenzene	9	.000	.007	.007
25	Oil and Grease	267	28.271	41.635	41.635
4a	Ammonia plus Ammonium	112	2.487	4.199	2.899
	Total Kjeldahl Nitrogen	3	19.623	19.623	19.623
4b	Nitrate+Nitrite	3	93.855	93.855	93.855
5a	DOC	116	151.608	151.608	151.608
1S1	Iron	34	12.297	12.297	12.297

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING

LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA



TABLE 4.1

TOTAL MASS LOADING (kg)  
FOR STORM WATER EFFLUENTS

## STELCO STEEL LAKE ERIE WORKS

ATG	PARAMETER	MASS LOADING
---	-----	-----
2	Cyanide Total	.165
8	Total Suspended Solids	1091.739
	Volatile Suspended Solids	181.331
9	Chromium	.000
	Lead	1.130
	Zinc	.746
14	Phenolics (4AAP)	.060
15	Sulphide	.000
19	Naphthalene	.000
25	Oil and Grease	63.892
4a	Ammonia plus Ammonium	3.307
1S1	Iron	43.212

## NOTE:

Total Discharge Duration	375.000 hrs
Total Volume Discharged	34572.000 m3

TABLE 5  
PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS  
ATLAS SPECIALTY STEEL  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TWS	LOADING RANGE		LTA
			MINIMUM LTA	MAXIMUM LTA	
8	Total Suspended Solids	332	80.487	103.863	89.826
	Volatile Suspended Solids	332	14.678	153.871	83.624
9	Aluminum	11	.854	.854	.854
	Chromium	11	.295	.295	.295
	Copper	11	.488	.488	.488
	Molybdenum	11	1.048	1.048	1.048
	Nickel	11	2.456	2.456	2.456
	Zinc	12	.934	.942	.938
16	1,1,2-Trichloroethane	10	.000	.011	.009
	Chloroform	10	.000	.012	.012
	Methylene Chloride	10	.013	.034	.029
17	o-Xylene	6	.001	.009	.009
19	Benzobutylphthalate	8	.002	.011	.011
	Bis(2-ethylhexyl)phthalate	8	.005	.038	.024
24	Octachlorodibenzo-p-dioxin	2	.003	.009	.006 ** (g/day)
24	Octachlorodibenzofuran	2	.001	.001	.001 ** (g/day)
25	Oil and Grease	329	32.949	38.251	38.251
4a	Total Kjeldahl Nitrogen	4	5.747	5.747	5.747
4b	Nitrate+Nitrite	4	74.261	74.261	74.261
5a	DOC	136	42.055	42.055	42.055
IS1	Iron	10	3.889	3.889	3.889

ATG = ANALYTICAL TEST GROUP

TWS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING

LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

\*\* NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day

NOTE: Loadings for dioxin and furan is given in g/day.

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 5.1

AVERAGE LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 1100 STREAM: INTAKE WATER  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	LOADING RANGE		LTA	STD DEV
			MINIMUM LTA	MAXIMUM LTA		
---	-----	---	-----	-----	---	---
8	Total Suspended Solids	188	33.846	72.291	49.224	33.496
9	Aluminum	9	1.459	1.734	1.734	.712
	Zinc	9	.098	.190	.132	.102
11	Chromium (hexavalent)	1	.178	.178	.178	
17	o-Xylene	6	.002	.011	.011	.002
19	Benzobutylphthalate	8	.002	.012	.012	.003
24	Octachlorodibenzo-p-dioxin	2	.002	.020	.011	** (g/day)
24	Octachlorodibenzofuran	2	.001	.003	.002	** (g/day)
25	Oil and Grease	190	12.581	26.638	26.638	54.901
4a	Total Kjeldahl Nitrogen	4	7.388	7.388	7.388	5.223
4b	Nitrate+Nitrite	4	5.848	5.848	5.848	3.027
5a	DOC	119	37.125	37.277	37.277	13.524
IS1	Iron	9	1.838	1.838	1.838	.686

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADINGS

LTA = LONG TERM AVERAGE LOADING

STD DEV = STANDARD DEVIATION FOR LTA LOADING

\*\* NOTE: Loading for dioxin and furan is given in g/day.

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 5.2

TOTAL MASS LOADING (kg)  
FOR DISPOSAL SITE EFFLUENTS

## ATLAS SPECIALTY STEEL

ATG	PARAMETER	MASS LOADING
---	-----	-----
8	Total Suspended Solids	108.744
	Volatile Suspended Solids	37.679
9	Nickel	.251
	Zinc	.351
11	Chromium (hexavalent)	.433
25	Oil and Grease	35.538
IS1	Iron	3.955

## NOTE:

Total Volume Discharged	5026.000
-------------------------	----------

TABLE 6

PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

IVACO ROLLING MILLS  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TMS	LOADING RANGE		LTA
			MINIMUM LTA	MAXIMUM LTA	
6	Total Phosphorus	10	.061	.061	.061
8	Total Suspended Solids	10	6.182	6.182	6.182
	Volatile Suspended Solids	10	.748	.778	.760
9	Aluminum	4	.203	.203	.203
	Chromium	10	.002	.002	.002
	Copper	4	.004	.004	.004
	Lead	10	.002	.003	.002
	Molybdenum	4	.003	.003	.003
	Vanadium	4	.004	.004	.004
	Zinc	10	.054	.054	.054
10	Arsenic	4	.000	.001	.001
11	Chromium (hexavalent)	3	.012	.012	.012
16	Trichloroethylene	3	.010	.010	.010
19	Bis(2-ethylhexyl)phthalate	4	.001	.001	.001
25	Oil and Grease	9	1.912	2.125	2.125
4a	Ammonia plus Ammonium	4	.045	.045	.045
	Total Kjeldahl Nitrogen	4	.165	.165	.165
4b	Nitrate+Nitrite	4	.085	.092	.086
5a	DOC	10	1.032	1.032	1.032
5b	TOC	4	1.471	1.471	1.471
151	Iron	10	.186	.186	.186

ATG = ANALYTICAL TEST GROUP

TMS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING

LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 6.1

TOTAL MASS LOADING (kg)  
FOR STORM WATER EFFLUENTS

## IVACO ROLLING MILLS

ATG	PARAMETER	MASS LOADING
---	-----	-----
6	Total Phosphorus	.017
8	Total Suspended Solids	471.803
	Volatile Suspended Solids	92.242
9	Lead	.533
	Zinc	3.896
25	Oil and Grease	12.853
151	Iron	31.311

## NOTE:

Total Discharge Duration	840.000 hrs
Total Volume Discharged	10644.600 m <sup>3</sup>

TABLE 7

PLANT TOTAL LOADING (kg/day)  
CONVENTIONAL AND PRIORITY POLLUTANTS

LASCO  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	LOADING RANGE		LTA
			MINIMUM LTA	MAXIMUM LTA	
---	-----	---	-----	-----	---
6	Total Phosphorus	53	2.519	2.519	2.519
8	Total Suspended Solids	365	60.064	66.182	66.182
9	Aluminum	11	.603	.641	.628
	Beryllium	11	.005	.064	.064
	Cadmium	11	.031	.043	.039
	Chromium	11	.079	.163	.121
	Copper	11	.500	.525	.525
	Lead	157	.333	.374	.347
	Molybdenum	11	.112	.181	.146
	Nickel	11	.121	.169	.145
	Silver	11	.051	.208	.103
	Vanadium	11	.132	.269	.224
	Zinc	157	2.386	2.390	2.390
11	Chromium (hexavalent)	4	.103	.117	.107
25	Oil and Grease	365	13.380	15.063	15.063
4a	Ammonia plus Ammonium	4	2.268	2.268	2.268
	Total Kjeldahl Nitrogen	4	8.709	10.346	10.346
4b	Nitrate+Nitrite	4	8.345	8.345	8.345
5a	DOC	53	227.065	227.065	227.065
1S1	Iron	53	7.354	7.354	7.354

ATG = ANALYTICAL TEST GROUP

TNS = TOTAL NUMBER OF VALID SAMPLES FOR LOADING

LTA = LONG TERM AVERAGE LOADING FOR THE PLANT (kg/day)

NOTE: LOADINGS SHOWN AS 0.000 ARE LOADINGS LESS THAN 0.001 kg/day

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 7.1

TOTAL MASS LOADING (kg)  
FOR STORM WATER EFFLUENTS

## LASCO

ATG	PARAMETER	MASS LOADING
---	-----	-----
8	Total Suspended Solids	4802.791
	Volatile Suspended Solids	1341.852
9	Lead	114.154
	Zinc	22.596
25	Oil and Grease	529.367
IS1	Iron	112.352

## NOTE:

Discharge Duration	279.201 hrs
Volume Discharged	24077.500 m <sup>3</sup>



TABLE 8  
SECTOR TOTAL LOADING (kg/day)

INTEGRATED STEEL MILLS

ATG	PARAMETER	MINIMUM	MAXIMUM	
		LTA	LTA	LTA
---	---	---	---	---
2	Cyanide Total	216.561	217.127	216.927
6	Total Phosphorus	103.004	120.757	108.984
8	Total Suspended Solids	24263.738	27471.660	26195.045
	Volatile Suspended Solids	4767.330	8430.136	5192.050
9	Aluminum	484.208	485.973	484.502
	Cadmium	1.912	4.076	3.985
	Chromium	17.109	25.468	20.508
	Cobalt	2.560	13.859	4.955
	Copper	39.264	46.375	45.586
	Lead	10.418	34.632	21.015
	Molybdenum	19.227	24.355	22.820
	Nickel	20.532	31.790	25.998
	Thallium	10.147	23.624	18.735
	Vanadium	57.417	61.608	58.585
	Zinc	122.446	123.881	123.733
10	Antimony	1.023	1.458	1.284
	Arsenic	3.875	6.038	4.914
	Selenium	5.312	5.797	5.360
11	Chromium (hexavalent)	6.121	6.965	6.721
12	Mercury	.043	.070	.048
14	Phenolics (4AAP)	57.623	58.279	58.266
15	Sulphide	37.579	54.992	54.472
16	1,1,2-Trichloroethane	.031	.253	.253
	1,2-Dichloroethane	.359	.417	.388
	Bromoform	1.225	1.359	1.239
	Bromomethane	.012	.120	.082
	Chloroform	.332	.637	.506
	Dibromochloromethane	1.132	1.760	1.361
	Methylene Chloride	.036	.073	.045
17	Benzene	1.955	2.228	2.065
	Styrene	.032	.235	.194
	Toluene	.180	.556	.481
	m-Xylene and p-Xylene	.089	.540	.294
	o-Xylene	.116	.492	.457
19	2,6-Dinitrotoluene	.054	.362	.318
	4-Bromophenyl Phenyl Ether	.016	.127	.127
	4-Chlorophenyl Phenyl Ether	.047	.381	.381
	Benz(a)anthracene	.154	.480	.316
	Benzo(a)pyrene	.088	.802	.716
	Benzo(b)fluoranthene	.147	.290	.228
	Benzo(g,h,i)perylene	.013	.103	.065
	Benzo(k)fluoranthene	.159	.360	.274
	Benzobutylphthalate	.045	.349	.349
	Bis(2-ethylhexyl)phthalate	.467	2.338	1.623
	Chrysene	.231	.468	.468
	Di-n-octyl Phthalate	1.004	2.139	1.458
	Fluoranthene	.323	.560	.473
	Indole	.120	.893	.608
	Naphthalene	.015	.024	.021
	Phenanthrene	.098	.391	.317

LTA = LONG TERM AVERAGE LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 8 (continued)

## SECTOR TOTAL LOADING (kg/day)

## INTEGRATED STEEL MILLS

ATG	PARAMETER	MINIMUM LTA	MAXIMUM LTA	LTA
19	Pyrene	.346	.649	.574
20	2,3,4,5-Tetrachlorophenol	.014	.104	.104
	4-Nitrophenol	.051	.363	.363
	p-Cresol	.128	.907	.907
23	1,2,3,4-Tetrachlorobenzene	.000	.034	.034
	1,2,3,5-Tetrachlorobenzene	.000	.021	.021
	1,2,3-Trichlorobenzene	.000	.028	.028
	1,2,4,5-Tetrachlorobenzene	.000	.021	.020
	1,2,4-Trichlorobenzene	.007	.033	.033
	2,4,5-Trichlorotoluene	.000	.009	.009
	Hexachlorobenzene	.005	.022	.019
	Hexachlorobutadiene	.000	.008	.008
	Hexachlorocyclopentadiene	.001	.024	.022
	Hexachloroethane	.013	.031	.023
	Octachlorostyrene	.000	.009	.009
	Pentachlorobenzene	.001	.019	.013
25	Oil and Grease	2172.599	2999.577	2880.820
26	Abietic Acid	.000	.001	.001
	Chlorodehydroabietic Acid	.002	.003	.003
	Dehydroabietic Acid	.662	1.076	1.076
	Isopimaric Acid	.012	.326	.326
	Oleic Acid	1.356	3.402	2.152
4a	Ammonia plus Ammonium	4106.086	4128.523	4115.618
	Total Kjeldahl Nitrogen	3252.714	3256.176	3253.406
4b	Nitrate+Nitrite	3485.958	3486.060	3485.973
5a	DOC	8457.891	8457.891	8457.891
5b	TOC	7240.703	7240.703	7240.703
IS1	Iron	1761.895	1762.068	1762.068

LTA = LONG TERM AVERAGE LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA

TABLE 9  
SECTOR TOTAL LOADING (kg/day)  
MINI & SPECIALTY STEEL MILLS

ATG	PARAMETER	MINIMUM	MAXIMUM	
		LTA	LTA	LTA
---	-----	-----	-----	---
6	Total Phosphorus	2.580	2.580	2.580
8	Total Suspended Solids	146.733	176.227	162.190
	Volatile Suspended Solids	15.426	154.649	84.384
9	Aluminum	1.660	1.698	1.685
	Beryllium	.005	.064	.064
	Cadmium	.031	.043	.039
	Chromium	.376	.460	.418
	Copper	.992	1.017	1.017
	Lead	.335	.377	.349
	Molybdenum	1.163	1.232	1.197
	Nickel	2.577	2.625	2.601
	Silver	.051	.208	.103
	Vanadium	.136	.273	.228
	Zinc	3.374	3.386	3.382
10	Arsenic	.000	.001	.001
11	Chromium (hexavalent)	.115	.129	.119
16	1,1,2-Trichloroethane	.000	.011	.009
	Chloroform	.000	.012	.012
	Methylene Chloride	.013	.034	.029
	Trichloroethylene	.010	.010	.010
17	o-Xylene	.001	.009	.009
19	Benzobutylphthalate	.002	.011	.011
	Bis(2-ethylhexyl)phthalate	.006	.039	.025
25	Oil and Grease	48.241	55.439	55.439
4a	Ammonia plus Ammonium	2.313	2.313	2.313
	Total Kjeldahl Nitrogen	14.621	16.258	16.258
4b	Nitrate+Nitrite	82.691	82.698	82.692
5a	DOC	270.152	270.152	270.152
5b	TOC	1.471	1.471	1.471
1S1	Iron	11.429	11.429	11.429

LTA = LONG TERM AVERAGE LOADING

NOTE: LOOK PAGE 18 FOR THE BASIS OF CALCULATING MINIMUM LTA, MAXIMUM LTA AND LTA



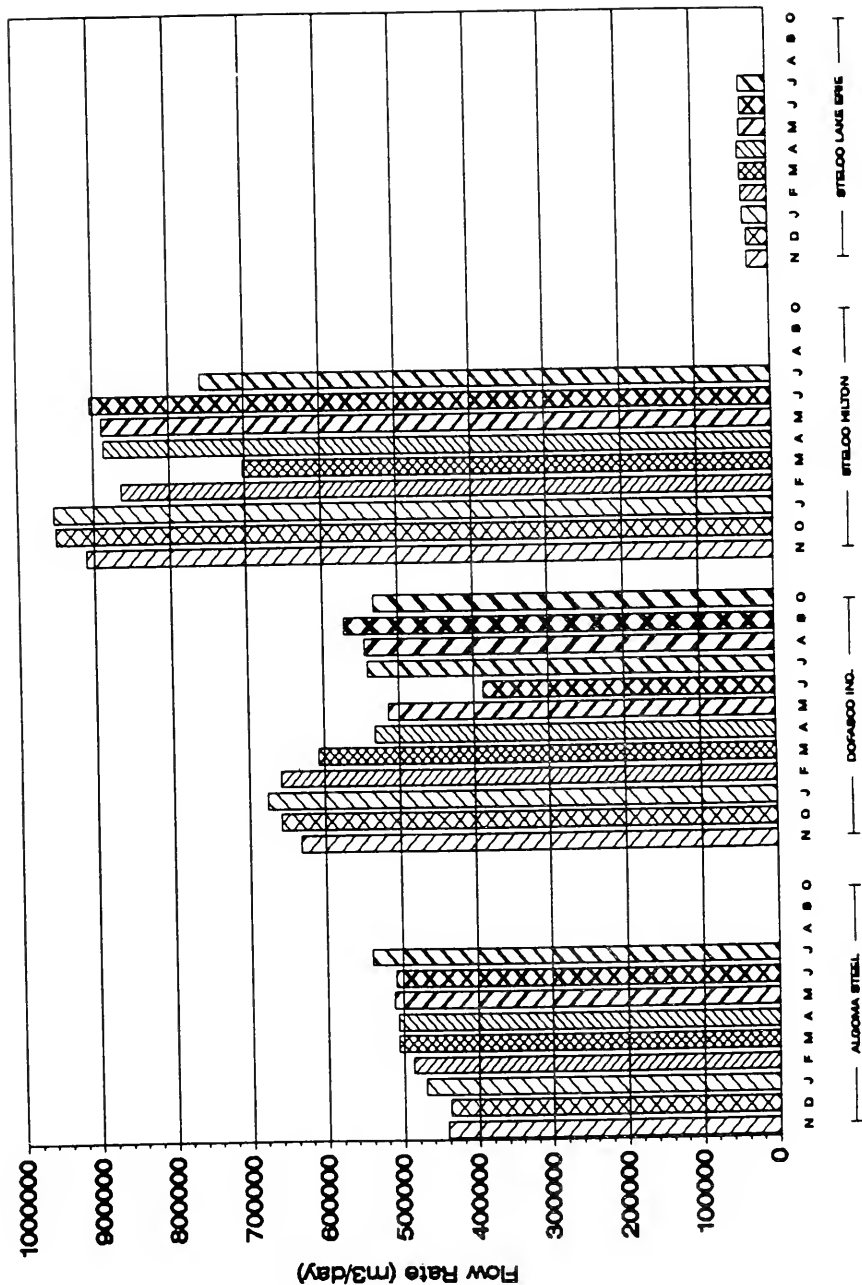
## EXPLANATORY NOTES

### MONTHLY AVERAGE LOADING FIGURES

- NOTE 1: Snow removed from Dofasco's roads and parking lots was unloaded directly in the area of the MISA sampler at control point #0200 ( Ottawa Street Sewer). This resulted in an unusually high suspended solids loading for February, 1990.
- NOTE 2: This peak is due to a rare post-precipitate phenomenon occurring at the West Bay Front Sewer (MISA Control Point #0400). Calcium carbonate particulate formed when treated effluent from the Ironmaking and Steelmaking clarifiers combined with non-contact cooling water from the Ironmaking process. Calcium carbonate is not normally generated and is non-toxic to the environment.
- NOTE 3: The phenolics loading shown for August, 1990 are questionable due to analytical instrumentation noise occurring during the first three weeks of the month. Abnormal operating conditions at the Biological Treatment Plant, which is upstream of the West Bay Front Sewer, may also have contributed to this peak loading.
- NOTE 4: This peak is due to one outlier value occurring at the West Bay Front Sewer.
- NOTE 5: The loading for the month of June, 1990 is high due to the small database used to calculate the monthly average.
- NOTE 6: As discussed in the text, zinc loadings were high for the period of November 1989 to March 1990 because the new 18 million dollar Blast Furnace Recycle System was not yet operational. On April 16, 1990, the Recycle System became operational and zinc loadings for the remainder of the monitoring period were reduced at the West Bay Front Sewer from an average of 95 kg/day to 17 kg/day.
- NOTE 7: As a result of one process abnormality on one day during the month of December.
- NOTE 8: As a result of one process abnormality on one day during the month of February.
- NOTE 9: TSS loading was reduced from 100 kg/day in December to 60 kg/day by the addition of a polymer.



Figure 1  
Integrated Steel Mills  
Monthly Average Flow Rate (m<sup>3</sup>/day)



**Figure 2**  
**Integrated Steel Mills**  
**Monthly Average Loading (kg/day)**  
**TOTAL SUSPENDED SOLIDS**

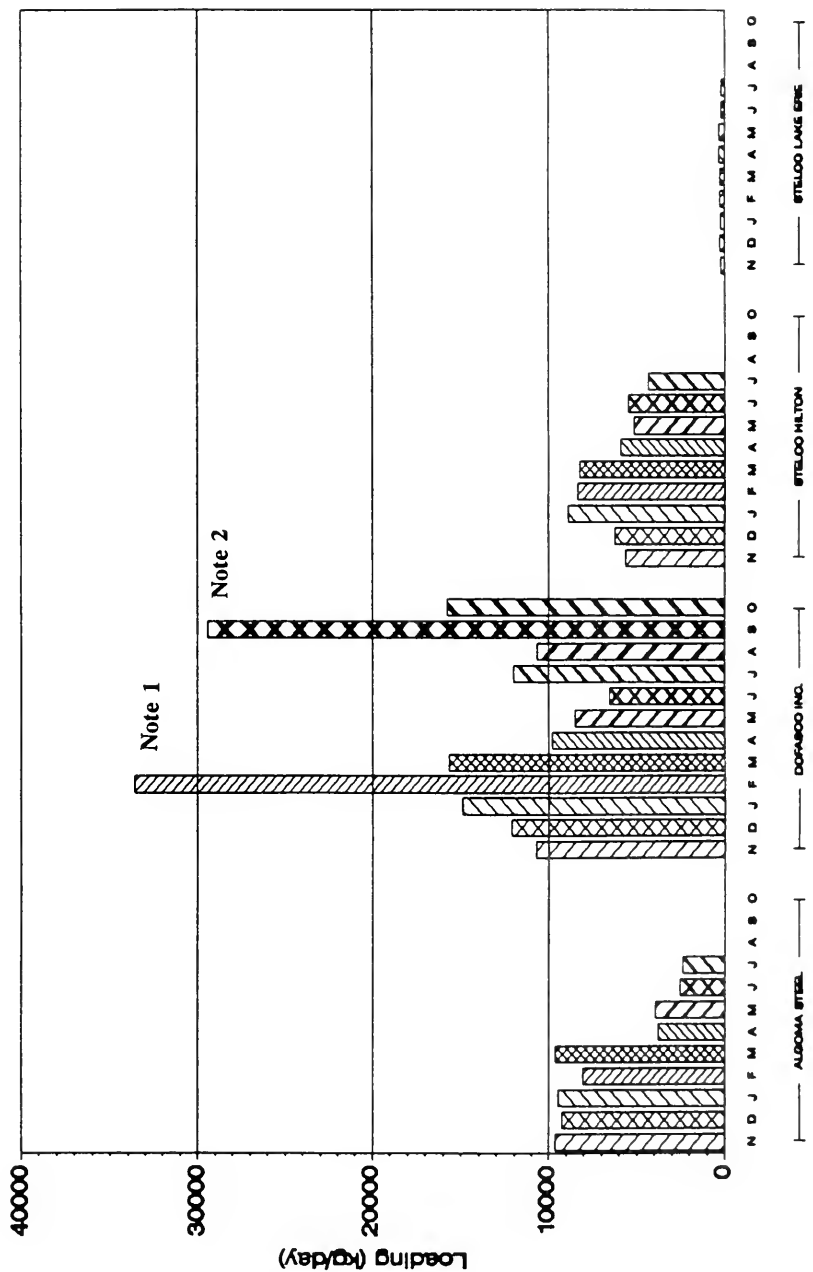




Figure 3  
Integrated Steel Mills  
Monthly Average Loading (kg/day)  
OIL & GREASE

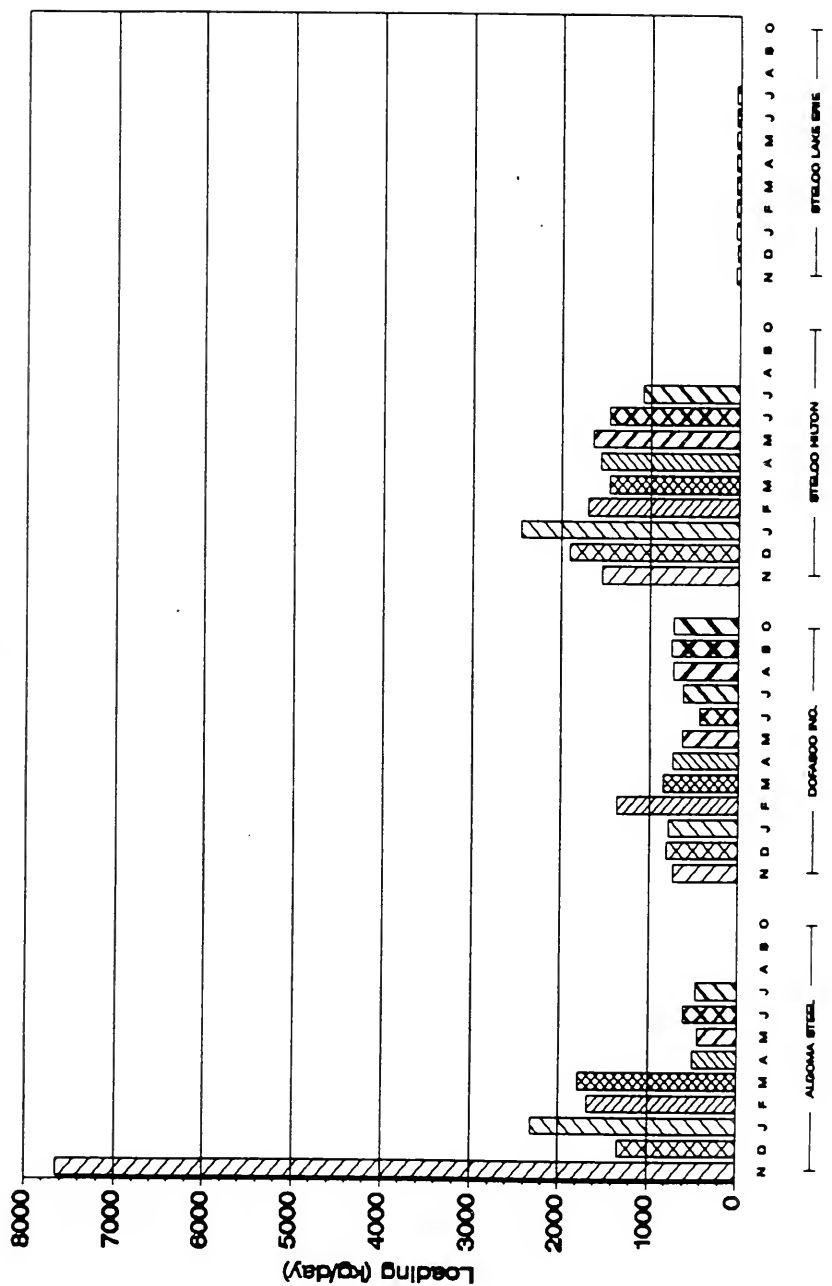


Figure 4  
Integrated Steel Mills  
Monthly Average Loading (kg/day)  
PHENOLICS (4AAP)

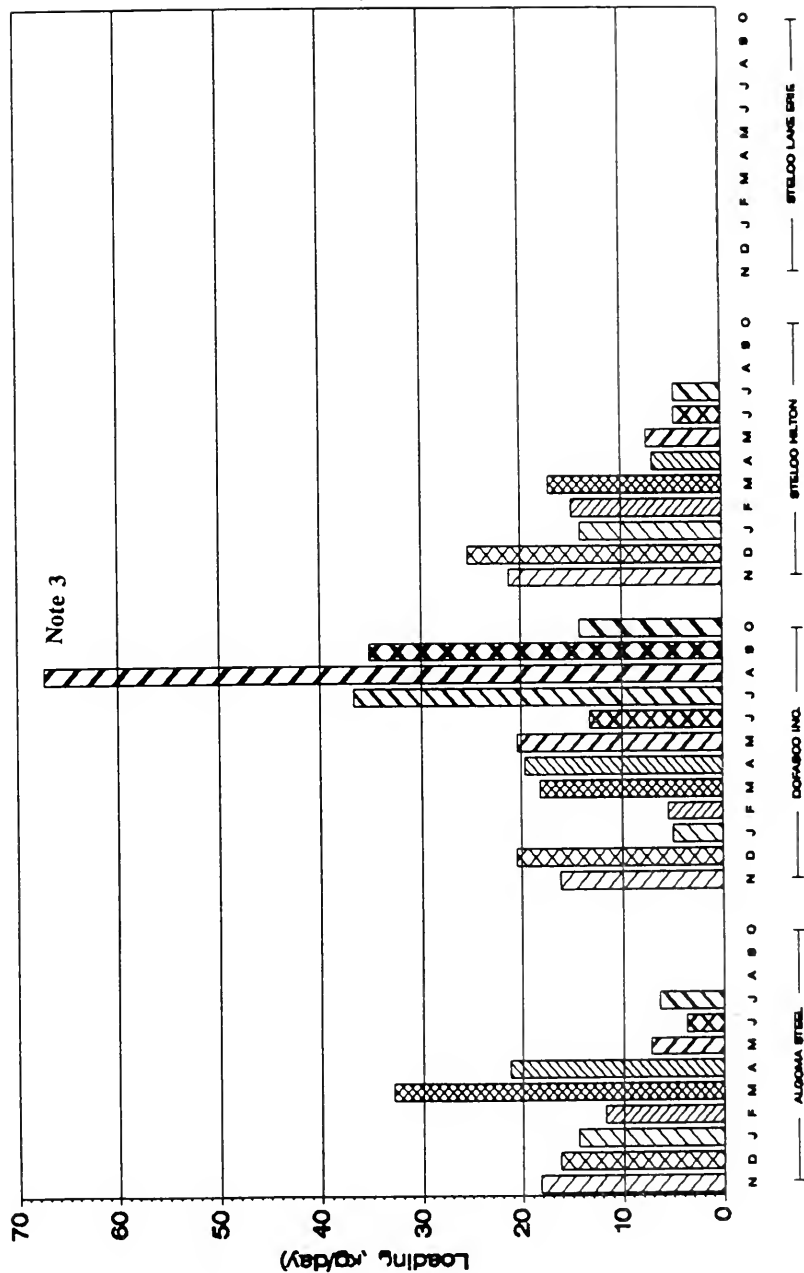


Figure 5  
Integrated Steel Mills  
Monthly Average Loading (kg/day)  
AMMONIA PLUS AMMONIUM

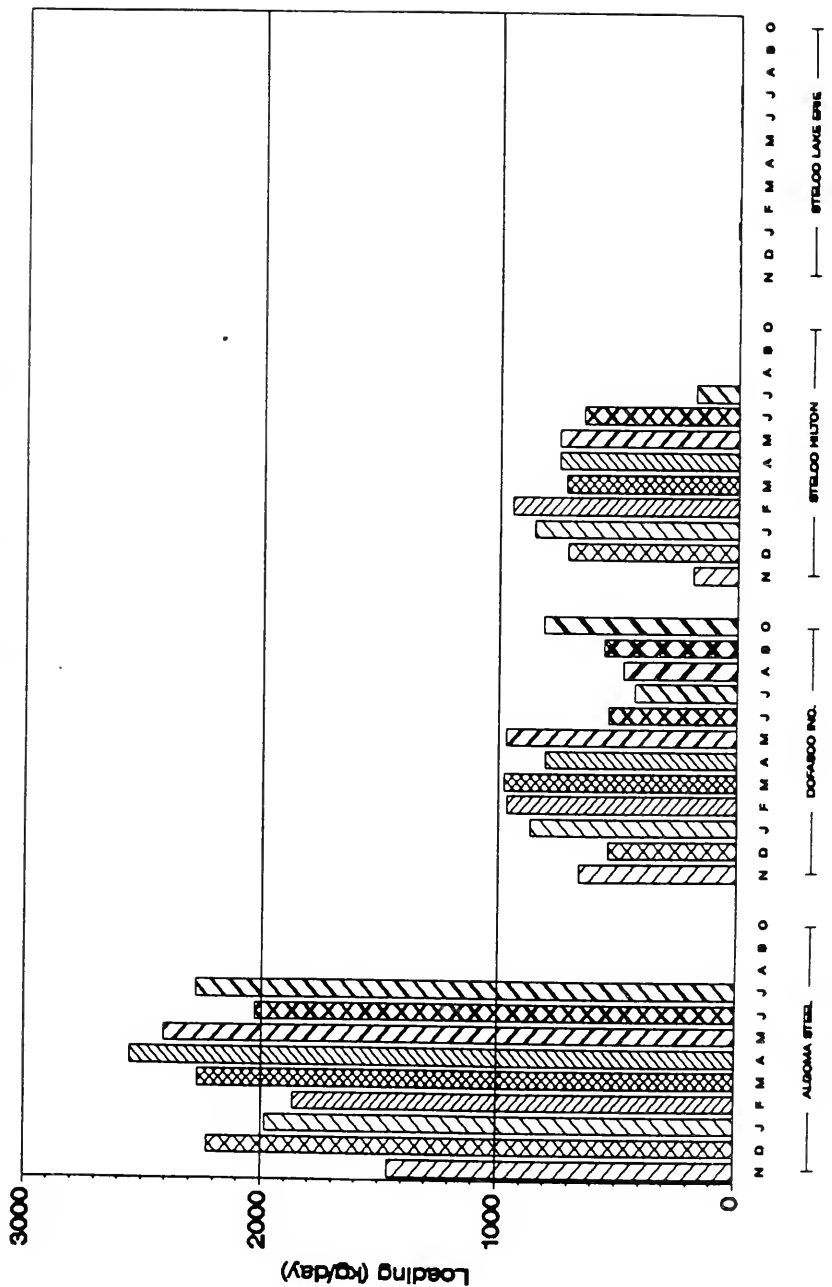


Figure 6  
Integrated Steel Mills  
Monthly Average Loading (kg/day)  
CYANIDE TOTAL

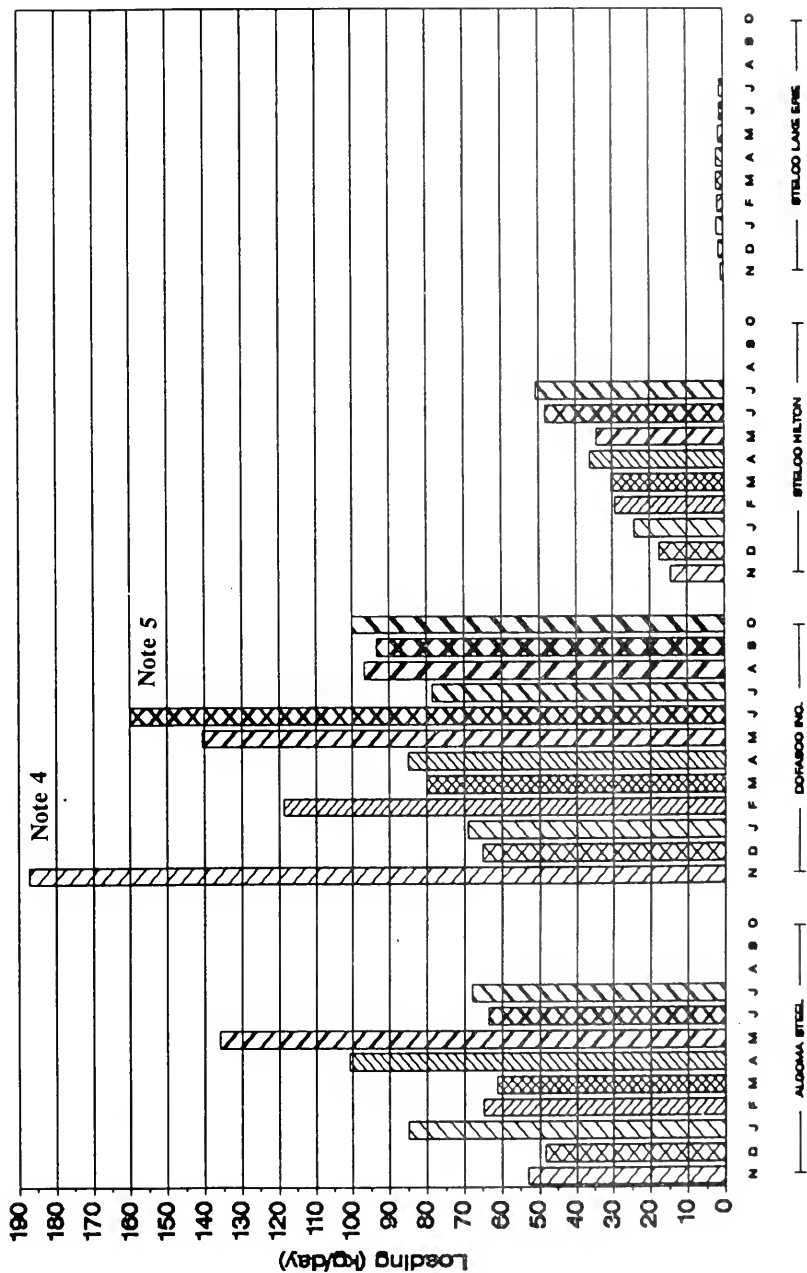


Figure 7  
Integrated Steel Mills  
Monthly Average Loading (kg/day)  
ZINC

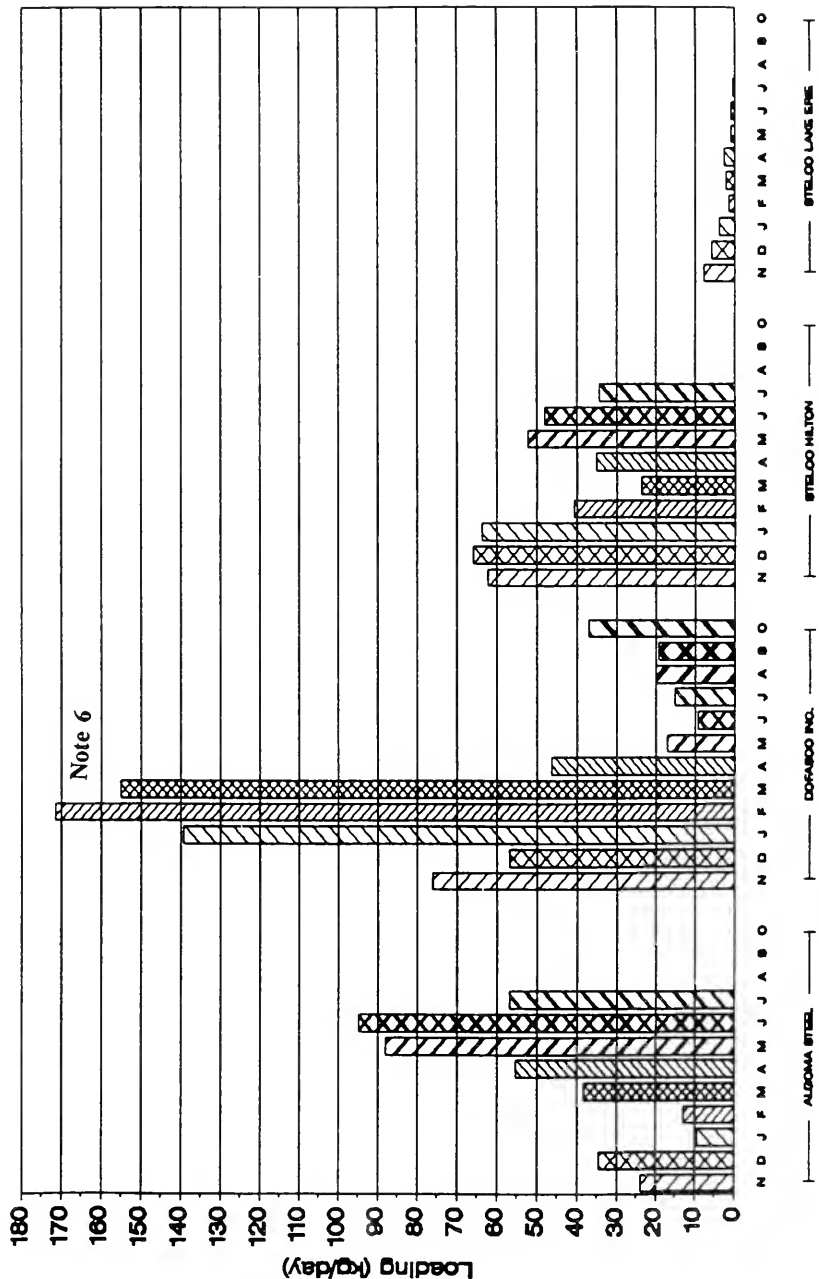
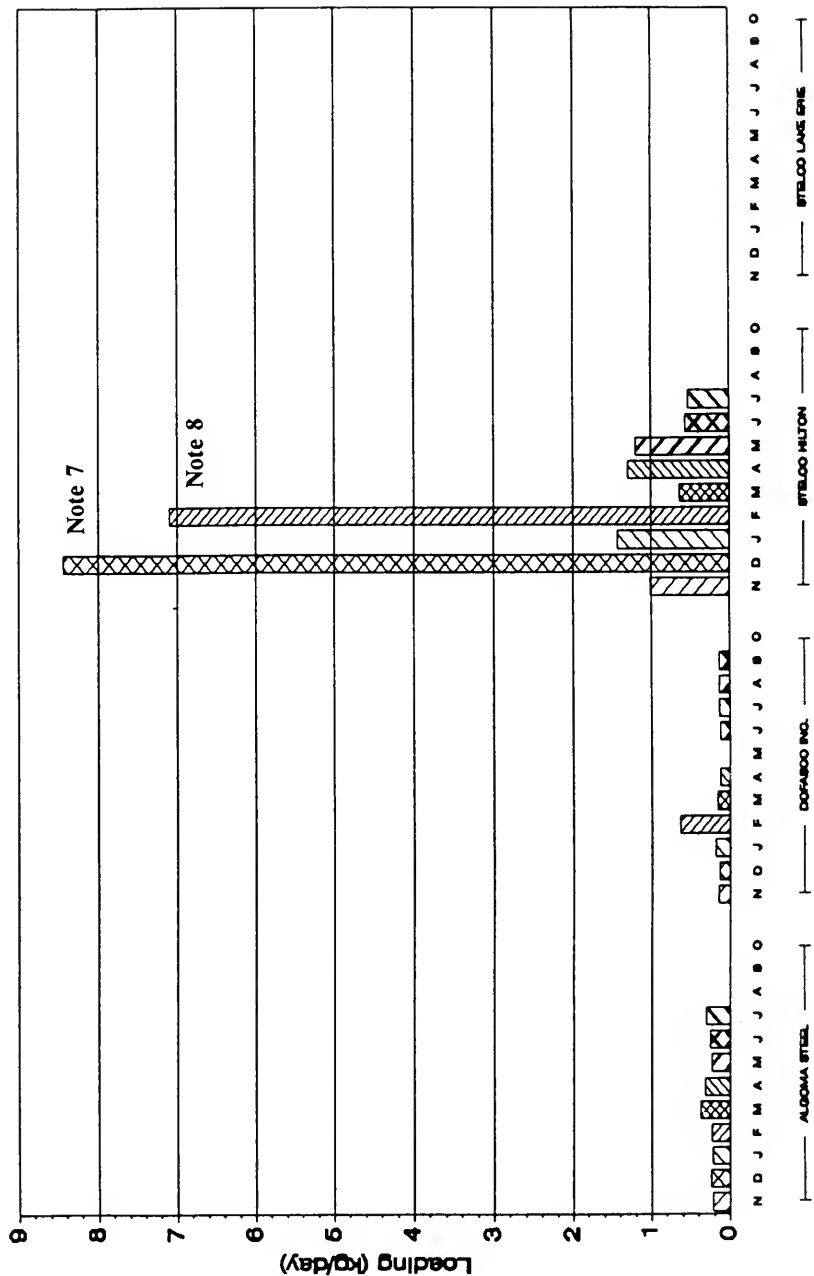


Figure 8  
Integrated Steel Mills  
Monthly Average Loading (kg/day)  
BENZENE, TOLUENE AND XYLENE (BTX)



## Figure 9



Figure 10  
Mini and Specialty Steel Mills  
Monthly Average Flow Rate (m3/day)

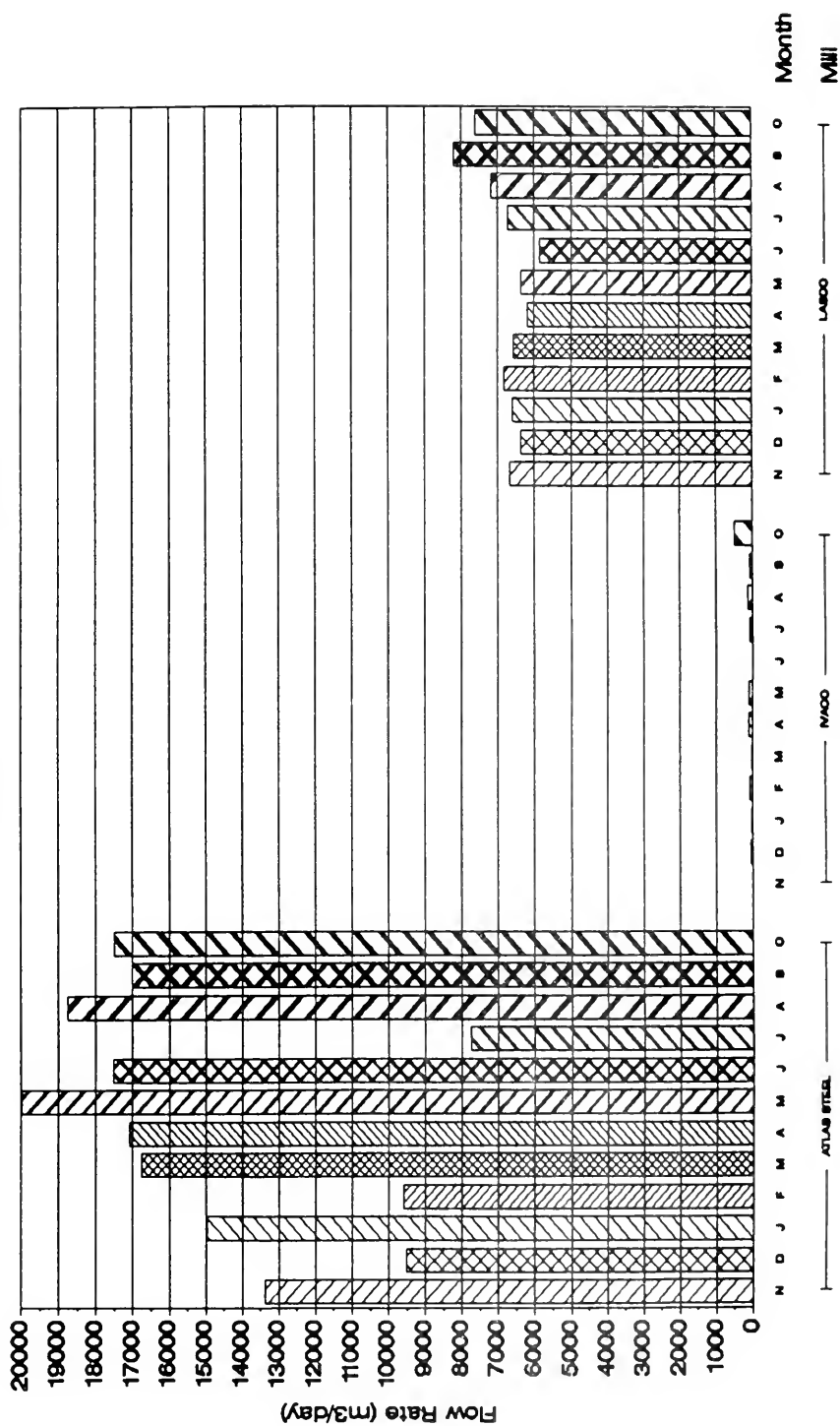




Figure 11  
Mini and Specialty Steel Mills  
Monthly Average Loading (kg/day)  
TOTAL SUSPENDED SOLIDS

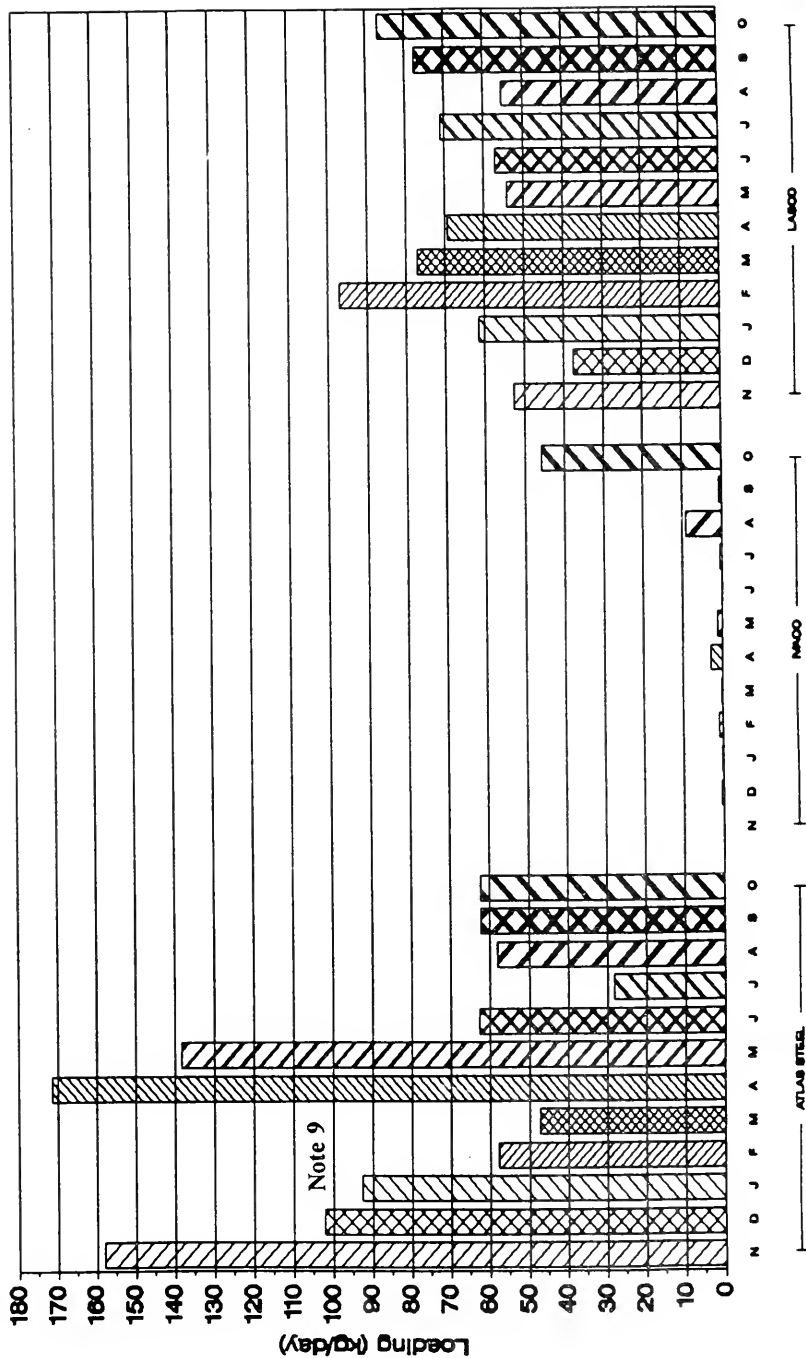


Figure 12  
Mini and Specialty Steel Mills  
Monthly Average Loading (kg/day)  
OIL & GREASE

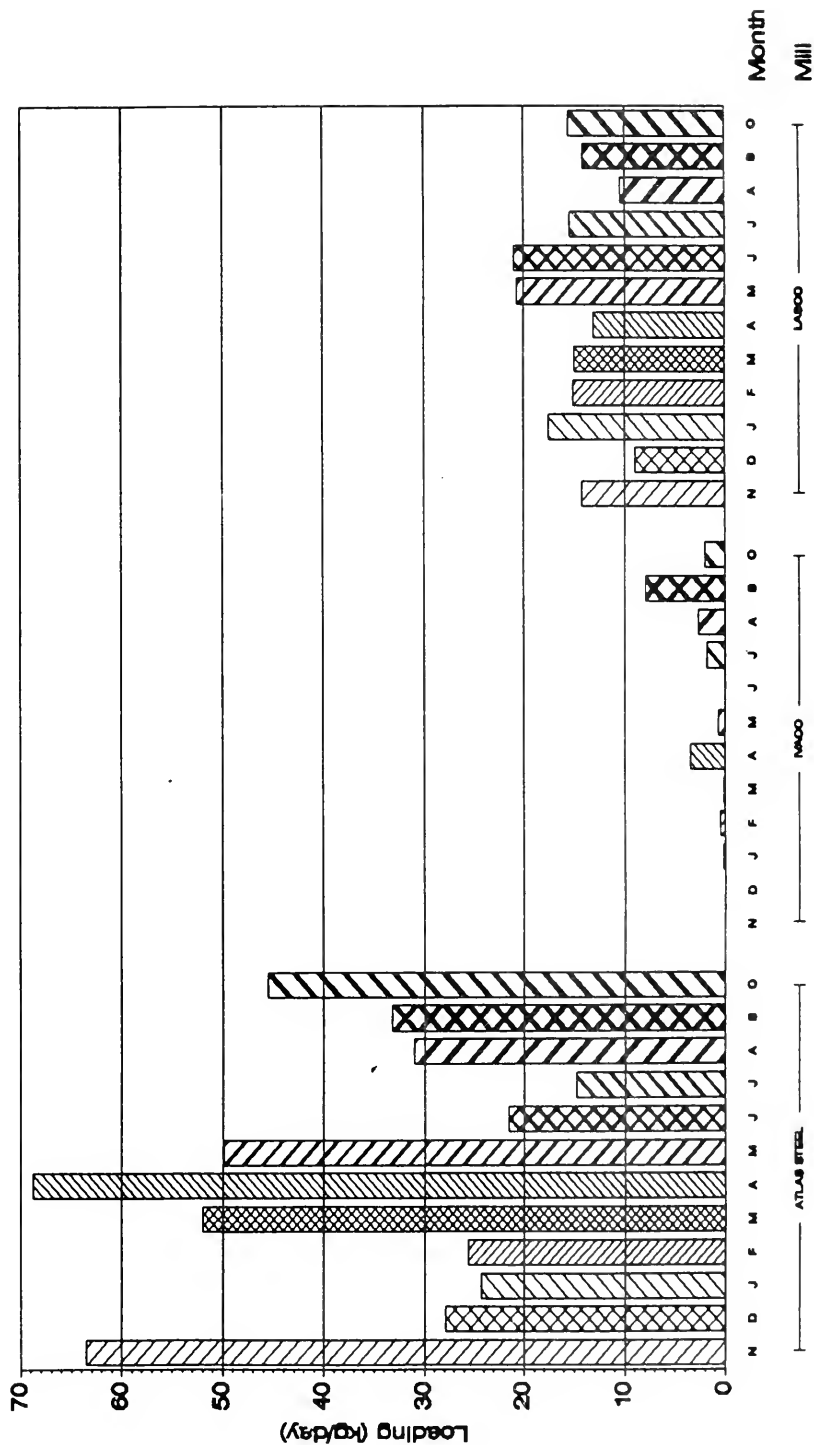


Figure 13  
 Mini and Specialty Steel Mills  
 Monthly Average Loading (kg/day)  
 ZINC

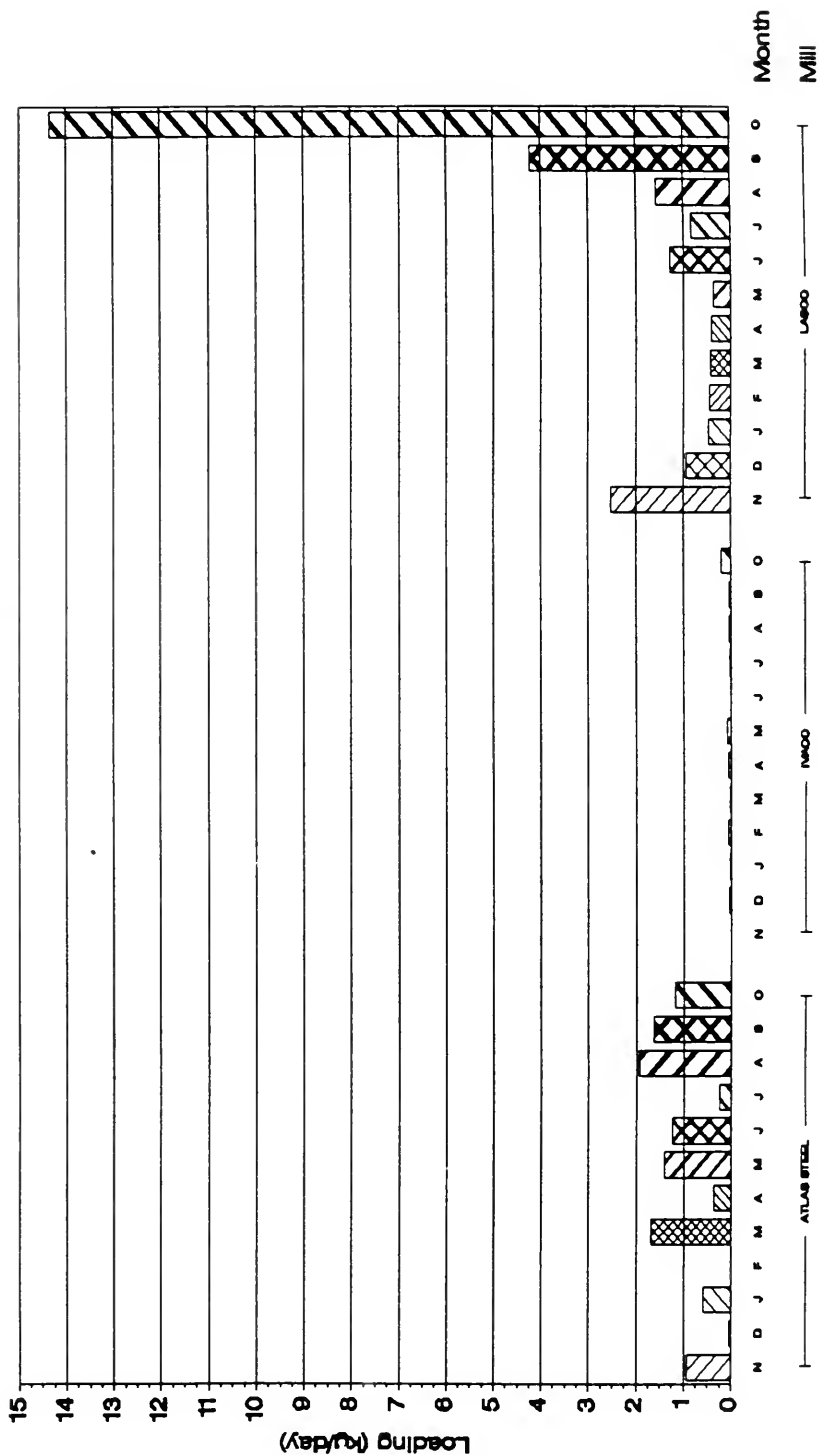
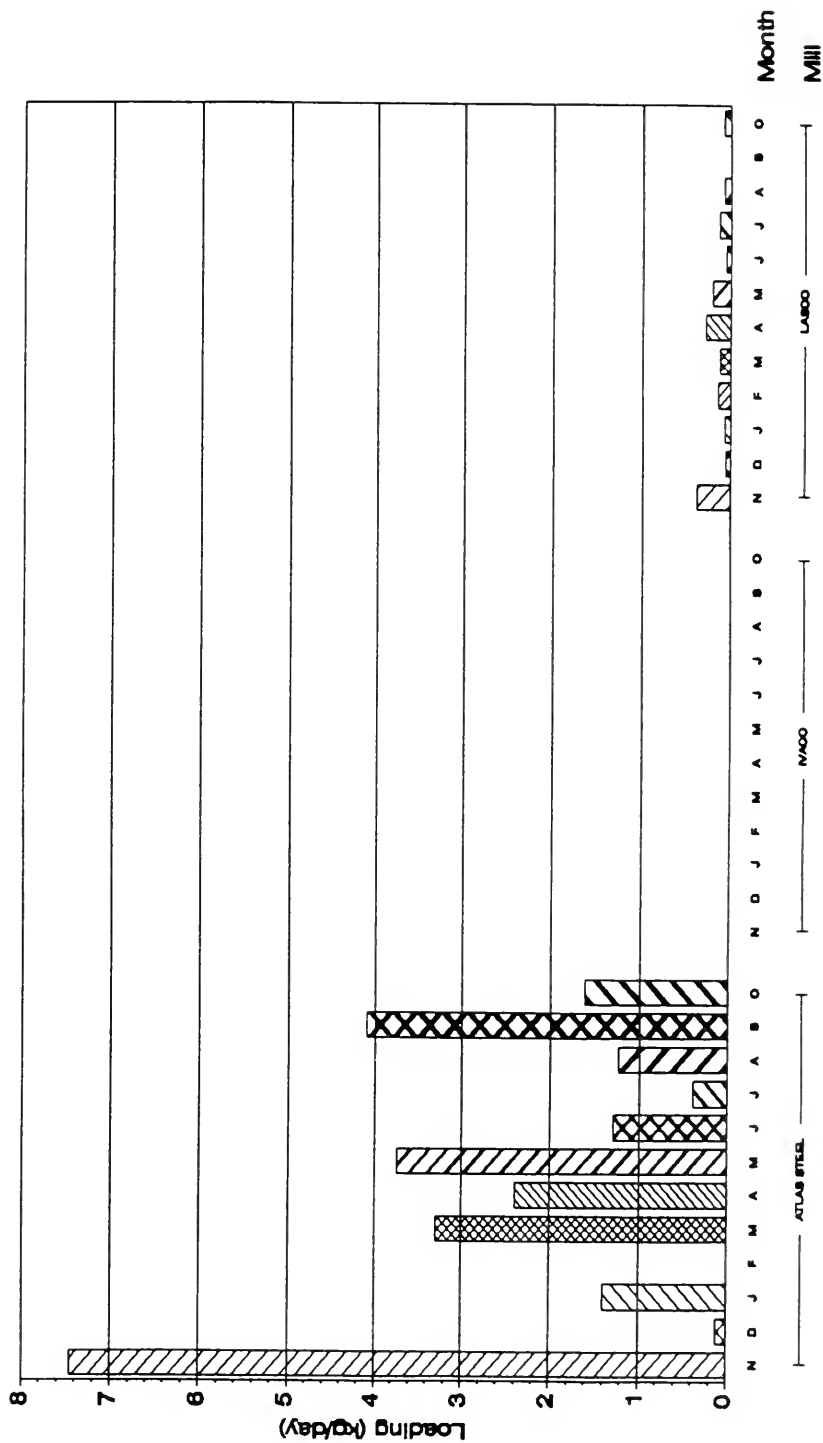


Figure 14  
 Mini and Specialty Steel Mills  
 Monthly Average Loading (kg/day)  
 NICKEL



## **APPENDIX I**

### **SECTOR LIST OF PARAMETERS MONITORED**

#### **INTEGRATED STEEL MILLS AND MINI & SPECIALTY STEEL MILLS**



TABLE I-1

## INTEGRATED STEEL MILLS

## SECTOR LIST OF PARAMETERS MONITORED

ATG	PARAMETER	RMDL	UNIT
---	-----	-----	-----
2	Cyanide Total	.005	mg/L
3	Hydrogen Ion (pH)		
4a	Ammonia plus Ammonium	.250	mg/L
	Total Kjeldahl Nitrogen	.500	mg/L
4b	Nitrate+Nitrite	.250	mg/L
5a	DOC	.500	mg/L
5b	TOC	5.000	mg/L
6	Total Phosphorus	.100	mg/L
7	Specific Conductance	5.000	uS/cm
8	Total Suspended Solids	5.000	mg/L
	Volatile Suspended Solids	10.000	mg/L
9	Aluminum	.030	mg/L
	Beryllium	.010	mg/L
	Cadmium	.002	mg/L
	Chromium	.020	mg/L
	Cobalt	.020	mg/L
	Copper	.010	mg/L
	Lead	.030	mg/L
	Molybdenum	.020	mg/L
	Nickel	.020	mg/L
	Silver	.030	mg/L
	Thallium	.030	mg/L
	Vanadium	.030	mg/L
	Zinc	.010	mg/L
10	Antimony	.005	mg/L
	Arsenic	.005	mg/L
	Selenium	.005	mg/L
11	Chromium (hexavalent)	.010	mg/L
12	Mercury	.100	ug/L
14	Phenolics (4AAP)	2.000	ug/L
15	Sulphide	.020	mg/L
16	1,1,2,2-Tetrachloroethane	4.300	ug/L
	1,1,2-Trichloroethane	.600	ug/L
	1,1-Dichloroethane	.800	ug/L
	1,1-Dichloroethylene	2.800	ug/L
	1,2-Dichlorobenzene	1.400	ug/L
	1,2-Dichloroethane	.800	ug/L
	1,2-Dichloropropane	.900	ug/L
	1,3-Dichlorobenzene	1.100	ug/L
	1,4-Dichlorobenzene	1.700	ug/L
	Bromoform	3.700	ug/L
	Bromomethane	3.700	ug/L
	Carbon Tetrachloride	1.300	ug/L
	Chlorobenzene	.700	ug/L
	Chloroform	.700	ug/L
	Chloromethane	3.700	ug/L
	Cis-1,3-Dichloropropylene	1.400	ug/L
	Dibromochloromethane	1.100	ug/L
	Ethylene Dibromide	1.000	ug/L
	Methylene Chloride	1.300	ug/L

ATG = ANALYTICAL TEST GROUP

RMDL = REGULATION METHOD OF DETECTION LIMIT

TABLE 1-1 (continued)

## INTEGRATED STEEL MILLS

## SECTOR LIST OF PARAMETERS MONITORED

ATG	PARAMETER	RMDL	UNIT
---	-----	----	-----
16	Tetrachloroethylene	1.100	ug/L
	Trans-1,2-Dichloroethylene	1.400	ug/L
	Trans-1,3-Dichloropropylene	1.400	ug/L
	Trichloroethylene	1.900	ug/L
	Trichlorofluoromethane	1.000	ug/L
	Vinyl Chloride	4.000	ug/L
17	Benzene	.500	ug/L
	Ethylbenzene	.600	ug/L
	Styrene	.500	ug/L
	Toluene	.500	ug/L
	m-Xylene and p-Xylene	1.100	ug/L
19	o-Xylene	.500	ug/L
	1-Chloronaphthalene	2.500	ug/L
	1-Methylnaphthalene	3.200	ug/L
	2,4-Dinitrotoluene	.800	ug/L
	2,6-Dinitrotoluene	.700	ug/L
	2-Chloronaphthalene	1.800	ug/L
	2-Methylnaphthalene	2.200	ug/L
	4-Bromophenyl Phenyl Ether	.300	ug/L
	4-Chlorophenyl Phenyl Ether	.900	ug/L
	5-Nitro, Acenaphthene	4.300	ug/L
	Acenaphthene	1.300	ug/L
	Acenaphthylene	1.400	ug/L
	Anthracene	1.200	ug/L
	Benzo(a)anthracene	.500	ug/L
	Benzo(a)pyrene	.600	ug/L
	Benzo(b)fluoranthene	.700	ug/L
	Benzo(g,h,i)perylene	.700	ug/L
	Benzo(k)fluoranthene	.700	ug/L
	Benzobutylphthalate	.600	ug/L
	Bis(2-chloroethoxyl)methane	3.500	ug/L
	Bis(2-chloroethyl)ether	4.400	ug/L
	Bis(2-chloroisopropyl)ether	2.200	ug/L
	Bis(2-ethylhexyl)phthalate	2.200	ug/L
	Camphene	3.500	ug/L
	Chrysene	.300	ug/L
	Di-n-butyl Phthalate	3.800	ug/L
	Di-n-octyl Phthalate	2.000	ug/L
	Dibenz(a,h)anthracene	1.300	ug/L
	Oiphenylamine	14.000	ug/L
	Fluoranthene	.400	ug/L
	Fluorene	1.700	ug/L
	Indeno(1,2,3-cd)pyrene	1.300	ug/L
	Indole	1.900	ug/L
	N-Nitrosodi-n-propylamine	3.100	ug/L
	N-Nitrosodiphenylamine	14.000	ug/L
	Naphthalene	1.600	ug/L
	Perylene	1.500	ug/L
	Phenanthrene	.400	ug/L
	Pyrene	.400	ug/L
20	2,3,4,5-Tetrachlorophenol	.400	ug/L

ATG = ANALYTICAL TEST GROUP

RMDL = REGULATION METHOD OF DETECTION LIMIT



TABLE 1-1 (continued)

## INTEGRATED STEEL MILLS

## SECTOR LIST OF PARAMETERS MONITORED

ATG	PARAMETER	RMDL	UNIT
---	-----	----	-----
20	2,3,4,6-Tetrachlorophenol	2.800	ug/L
	2,3,4-Trichlorophenol	.600	ug/L
	2,3,5,6-Tetrachlorophenol	1.600	ug/L
	2,3,5-Trichlorophenol	1.300	ug/L
	2,4,5-Trichlorophenol	1.300	ug/L
	2,4,6-Trichlorophenol	1.300	ug/L
	2,4-Dichlorophenol	1.700	ug/L
	2,4-Dimethylphenol	7.300	ug/L
	2,4-Dinitrophenol	42.000	ug/L
	2,6-Dichlorophenol	2.000	ug/L
	2-Chlorophenol	3.700	ug/L
	4,6-Dinitro-o-cresol	24.000	ug/L
	4-Chloro-3-methylphenol	1.500	ug/L
	4-Nitrophenol	1.400	ug/L
	Pentachlorophenol	1.300	ug/L
	Phenol	2.400	ug/L
	m-Cresol	3.400	ug/L
	o-Cresol	3.700	ug/L
	p-Cresol	3.500	ug/L
23	1,2,3,4-Tetrachlorobenzene	.010	ug/L
	1,2,3,5-Tetrachlorobenzene	.010	ug/L
	1,2,3-Trichlorobenzene	.010	ug/L
	1,2,4,5-Tetrachlorobenzene	.010	ug/L
	1,2,4-Trichlorobenzene	.010	ug/L
	2,4,5-Trichlorotoluene	.010	ug/L
	Hexachlorobenzene	.010	ug/L
	Hexachlorobutadiene	.010	ug/L
	Hexachlorocyclopentadiene	.010	ug/L
	Hexachloroethane	.010	ug/L
	Octachlorostyrene	.010	ug/L
	Pentachlorobenzene	.010	ug/L
24	2,3,7,8 TCDD	.020	ng/L
	Octachlorodibenzo-p-dioxin	.030	ng/L
	Octachlorodibenzofuran	.030	ng/L
	Total H6CDD	.030	ng/L
	Total H6CDF	.020	ng/L
	Total H7CDD	.030	ng/L
	Total H7CDF	.030	ng/L
	Total PCDD	.020	ng/L
	Total PCDF	.015	ng/L
	Total TCDD	.020	ng/L
	Total TCDF	.015	ng/L
25	Oil and Grease	1.000	mg/L
26	Abietic Acid	5.000	ug/L
	Chlorodehydroabietic Acid	5.000	ug/L
	Dehydroabietic Acid	5.000	ug/L
	Isopimaric Acid	5.000	ug/L
	Levopimaric Acid	5.000	ug/L
	Neosabietic Acid	5.000	ug/L
	Oleic Acid	5.000	ug/L
	Pimaric Acid	5.000	ug/L
27	PCBT	.100	ug/L
IS1	Iron	.020	mg/L

ATG = ANALYTICAL TEST GROUP

RMDL = REGULATION METHOD OF DETECTION LIMIT

TABLE I-2

## MINI &amp; SPECIALTY STEEL MILLS

## SECTOR LIST OF PARAMETERS MONITORED

ATG	PARAMETER	RMOL	UNIT
---	-----	----	-----
3	Hydrogen Ion (pH)		
4a	Ammonia plus Ammonium	.250	mg/L
	Total Kjeldahl Nitrogen	.500	mg/L
4b	Nitrate+Nitrite	.250	mg/L
5a	DOC	.500	mg/L
5b	TOC	5.000	mg/L
6	Total Phosphorus	.100	mg/L
7	Specific Conductance	5.000	uS/cm
8	Total Suspended Solids	5.000	mg/L
	Volatile Suspended Solids	10.000	mg/L
9	Aluminum	.030	mg/L
	Beryllium	.010	mg/L
	Cadmium	.002	mg/L
	Chromium	.020	mg/L
	Cobalt	.020	mg/L
	Copper	.010	mg/L
	Lead	.030	mg/L
	Molybdenum	.020	mg/L
	Nickel	.020	mg/L
	Silver	.030	mg/L
	Thallium	.030	mg/L
	Vanadium	.030	mg/L
	Zinc	.010	mg/L
10	Antimony	.005	mg/L
	Arsenic	.005	mg/L
	Selenium	.005	mg/L
11	Chromium (hexavalent)	.010	mg/L
16	1,1,2,2-Tetrachloroethane	4.300	ug/L
	1,1,2-Trichloroethane	.600	ug/L
	1,1-Dichloroethane	.800	ug/L
	1,1-Dichloroethylene	2.800	ug/L
	1,2-Dichlorobenzene	1.400	ug/L
	1,2-Dichloroethane	.800	ug/L
	1,2-Dichloropropane	.900	ug/L
	1,3-Dichlorobenzene	1.100	ug/L
	1,4-Dichlorobenzene	1.700	ug/L
	Bromoform	3.700	ug/L
	Bromomethane	3.700	ug/L
	Carbon Tetrachloride	1.300	ug/L
	Chlorobenzene	.700	ug/L
	Chloroform	.700	ug/L
	Chloromethane	3.700	ug/L
	Cis-1,3-Dichloropropylene	1.400	ug/L
	Dibromochloromethane	1.100	ug/L
	Ethylene Dibromide	1.000	ug/L
	Methylene Chloride	1.300	ug/L

ATG = ANALYTICAL TEST GROUP

RMOL = REGULATION METHOD OF DETECTION LIMIT

TABLE I-2 (continued)

## MINI &amp; SPECIALTY STEEL MILLS

## SECTOR LIST OF PARAMETERS MONITORED

ATG	PARAMETER	RMDL	UNIT
---	-----	----	-----
16	Tetrachloroethylene	1.100	ug/L
	Trans-1,2-Dichloroethylene	1.400	ug/L
	Trans-1,3-Dichloropropylene	1.400	ug/L
	Trichloroethylene	1.900	ug/L
	Trichlorofluoromethane	1.000	ug/L
	Vinyl Chloride	4.000	ug/L
17	Benzene	.500	ug/L
	Ethylbenzene	.600	ug/L
	Styrene	.500	ug/L
	Toluene	.500	ug/L
	m-Xylene and p-Xylene	1.100	ug/L
	o-Xylene	.500	ug/L
19	1-Chloronaphthalene	2.500	ug/L
	1-Methylnaphthalene	3.200	ug/L
	2,4-Dinitrotoluene	.800	ug/L
	2,6-Dinitrotoluene	.700	ug/L
	2-Chloronaphthalene	1.800	ug/L
	2-Methylnaphthalene	2.200	ug/L
	4-Bromophenyl Phenyl Ether	.300	ug/L
	4-Chlorophenyl Phenyl Ether	.900	ug/L
	5-Nitro, Acenaphthene	4.300	ug/L
	Acenaphthene	1.300	ug/L
	Acenaphthylene	1.400	ug/L
	Anthracene	1.200	ug/L
	Benzo(a)anthracene	.500	ug/L
	Benzo(a)pyrene	.600	ug/L
	Benzo(b)fluoranthene	.700	ug/L
	Benzo(g,h,i)perylene	.700	ug/L
	Benzo(k)fluoranthene	.700	ug/L
	Benzobutylphthalate	.600	ug/L
	Bis(2-chloroethoxyl)methane	3.500	ug/L
	Bis(2-chloroethyl)ether	4.400	ug/L
	Bis(2-chloroisopropyl)ether	2.200	ug/L
	Bis(2-ethylhexyl)phthalate	2.200	ug/L
	Camphene	3.500	ug/L
	Chrysene	.300	ug/L
	Di-n-butyl Phthalate	3.800	ug/L
	Di-n-octyl Phthalate	2.000	ug/L
	Dibenz(a,h)anthracene	1.300	ug/L
	Diphenylamine	14.000	ug/L
	Fluoranthene	.400	ug/L
	Fluorene	1.700	ug/L
	Indeno(1,2,3-cd)pyrene	1.300	ug/L
	Indole	1.900	ug/L
	N-Nitrosodi-n-propylamine	3.100	ug/L
	N-Nitrosodiphenylamine	14.000	ug/L
	Naphthalene	1.600	ug/L
	Perylene	1.500	ug/L
	Phenanthrene	.400	ug/L

ATG = ANALYTICAL TEST GROUP

RMDL = REGULATION METHOD OF DETECTION LIMIT

TABLE I-2 (continued)

## MINI &amp; SPECIALTY STEEL MILLS

## SECTOR LIST OF PARAMETERS MONITORED

ATG	PARAMETER	RMDL	UNIT
---	-----	----	-----
19	Pyrene	.400	ug/L
20	2,3,4,5-Tetrachlorophenol	.400	ug/L
	2,3,4,6-Tetrachlorophenol	2.800	ug/L
	2,3,4-Trichlorophenol	.600	ug/L
	2,3,5,6-Tetrachlorophenol	1.600	ug/L
	2,3,5-Trichlorophenol	1.300	ug/L
	2,4,5-Trichlorophenol	1.300	ug/L
	2,4,6-Trichlorophenol	1.300	ug/L
	2,4-Dichlorophenol	1.700	ug/L
	2,4-Dimethylphenol	7.300	ug/L
	2,4-Dinitrophenol	42.000	ug/L
	2,6-Dichlorophenol	2.000	ug/L
	2-Chlorophenol	3.700	ug/L
	4,6-Dinitro-o-cresol	24.000	ug/L
	4-Chloro-3-methylphenol	1.500	ug/L
	4-Nitrophenol	1.400	ug/L
	Pentachlorophenol	1.300	ug/L
	Phenol	2.400	ug/L
	m-Cresol	3.400	ug/L
	o-Cresol	3.700	ug/L
	p-Cresol	3.500	ug/L
23	1,2,3,4-Tetrachlorobenzene	.010	ug/L
	1,2,3,5-Tetrachlorobenzene	.010	ug/L
	1,2,3-Trichlorobenzene	.010	ug/L
	1,2,4,5-Tetrachlorobenzene	.010	ug/L
	1,2,4-Trichlorobenzene	.010	ug/L
	2,4,5-Trichlorotoluene	.010	ug/L
	Hexachlorobenzene	.010	ug/L
	Hexachlorobutadiene	.010	ug/L
	Hexachlorocyclopentadiene	.010	ug/L
	Hexachloroethane	.010	ug/L
	Octachlorostyrene	.010	ug/L
	Pentachlorobenzene	.010	ug/L
24	2,3,7,8 TCDD	.020	ng/L
	Octachlorodibenzo-p-dioxin	.030	ng/L
	Octachlorodibenzofuran	.030	ng/L
	Total H6CDD	.030	ng/L
	Total H6CDF	.020	ng/L
	Total H7CDD	.030	ng/L
	Total H7CDF	.030	ng/L
	Total PCDD	.020	ng/L
	Total PCDF	.015	ng/L
	Total TCDD	.020	ng/L
	Total TCDF	.015	ng/L
25	Oil and Grease	1.000	mg/L
27	PCBT	.100	ug/L
1S1	Iron	.020	mg/L

ATG = ANALYTICAL TEST GROUP

RMDL = REGULATION METHOD OF DETECTION LIMIT

TABLE 1-3  
PROVINCIAL WATER QUALITY OBJECTIVE/GUIDELINES

ATG	PARAMETER	VALUE	UNIT	STATUS
9	Aluminum	(a)		PWQG
	Beryllium	(a)		PWQO
	Cadmium	.150	ug/L	PWQO
	Cadmium (revised)	(a)		PROPOSED PWQO
	Chromium	100.000	ug/L	PWQO
	Cobalt	.400	ug/L	PROPOSED PWQG
	Copper	5.000	ug/L	PWQO
	Copper (revised)	(a)		PROPOSED PWQO
	Lead	(a)		PROPOSED PWQO
	Nickel	25.000	ug/L	PWQO
	Silver	.100	ug/L	PWQO
	Thallium	.200	ug/L	PROPOSED PWQG
	Vanadium	7.000	ug/L	PROPOSED PWQG
	Zinc	16.000	ug/L	PWQO
10	Antimony	7.000	ug/L	PROPOSED PWQG
	Arsenic	100.000	ug/L	PWQO
	Selenium	100.000	ug/L	PWQO
12	Mercury	.200	ug/L	PWQO
14	Phenolics (4AAP)	1.000	ug/L	PWQO
16	1,1,2,2-Tetrachloroethane	50.000	ug/L	PROPOSED PWQG
	1,1,2-Trichloroethane	800.000	ug/L	PROPOSED PWQG
	1,1-Dichloroethane	200.000	ug/L	PROPOSED PWQG
	1,1-Dichloroethylene	40.000	ug/L	PROPOSED PWQG
	1,2-Dichlorobenzene	2.500	ug/L	PWQO
	1,2-Dichloroethane	90.000	ug/L	PROPOSED PWQG
	1,3-Dichlorobenzene	2.500	ug/L	PWQO
	1,4-Dichlorobenzene	4.000	ug/L	PWQO
	Chlorobenzene	15.000	ug/L	PWQO
	Tetrachloroethylene	50.000	ug/L	PROPOSED PWQG
	Trans-1,2-Dichloroethylene	200.000	ug/L	PROPOSED PWQG
	Trichloroethylene	2.000	ug/L	PROPOSED PWQG
17	Benzene	100.000	ug/L	PROPOSED PWQG
	Ethylbenzene	20.000	ug/L	PROPOSED PWQG
	Styrene	20.000	ug/L	PROPOSED PWQG
	Toluene	.800	ug/L	PROPOSED PWQG
	o-Xylene	.700	ug/L	PROPOSED PWQG
19	1-Methylnaphthalene	2.000	ug/L	PROPOSED PWQG
	2,4-Dinitrotoluene	5.000	ug/L	PROPOSED PWQG
	2,6-Dinitrotoluene	50.000	ug/L	PROPOSED PWQG
	2-Methylnaphthalene	2.000	ug/L	PROPOSED PWQG
	Bis(2-ethylhexyl)phthalate	(f)	ug/L	PWQO(f)
	Di-n-butyl Phthalate	(g)	ug/L	PWQO(g)
	Di-n-octyl Phthalate	(h)	ug/L	PWQO
20	2,3,4,5-Tetrachlorophenol	1.000	ug/L	PWQO
	2,3,4,6-Tetrachlorophenol	1.000	ug/L	PWQO
	2,3,4-Trichlorophenol	18.000	ug/L	PWQO
	2,3,5,6-Tetrachlorophenol	1.000	ug/L	PWQO
	2,3,5-Trichlorophenol	18.000	ug/L	PWQO
	2,4,5-Trichlorophenol	18.000	ug/L	PWQO
	2,4,6-Trichlorophenol	18.000	ug/L	PWQO
	2,4-Dichlorophenol	.200	ug/L	PWQO
	2,4-Dimethylphenol	10.500	ug/L	PROPOSED PWQG
	2,6-Dichlorophenol	.200	ug/L	PWQO
	4-Nitrophenol	48.000	ug/L	PROPOSED PWQG
	Pentachlorophenol	.500	ug/L	PWQO
	m-Cresol	1.000	ug/L	PROPOSED PWQG
	o-Cresol	1.000	ug/L	PROPOSED PWQG
	p-Cresol	1.000	ug/L	PROPOSED PWQG

TABLE I-3 (continued)

## PROVINCIAL WATER QUALITY OBJECTIVE/GUIDELINES

ATG	PARAMETER	VALUE	UNIT	STATUS
---	-----	----	-----	-----
23	1,2,3,4-Tetrachlorobenzene	.100	ug/L	PWQO
	1,2,3,5-Tetrachlorobenzene	.100	ug/L	PWQO
	1,2,3-Trichlorobenzene	.900	ug/L	PWQO
	1,2,4,5-Tetrachlorobenzene	.150	ug/L	PWQO
	1,2,4-Trichlorobenzene	.500	ug/L	PWQO
	Hexachlorobenzene	.0065	ug/L	PWQO
	Hexachlorobutadiene	.020	ug/L	PROPOSED PWQG
	Pentachlorobenzene	.030	ug/L	PWQO
24	2,3,7,8 TCDD	.100	pg/L	PROPOSED PWQG
26	Abietic Acid	(a),(j)		PROPOSED PWQG(j)

## LEGEND

- (a) = PWQO/G is either a narrative, or dependent on pH, alkalinity or hardness; see Blue Book Table 1 and addenda, and table below.
- (b) = proposed PWQG's are under development for 2,3,7,8-TCDD and 2,3,7,8-TCDF only
- (c) = proposed PWQG's are available for some isomers of dimethylphenol
- (d) = PWQO is for MONOCHLOROPHENOL (7 ug/L)
- (f) = PWQO is for DIETHYLHEXYLPHTHALATE (0.6 ug/L)
- (g) = PWQO is for DIBUTYLPHTHALATE (4.0 ug/L)
- (h) = PWQO is for OTHER PHTHALATES (0.2 ug/L)
- (j) = PWQO is available for total PCB's for total resin acids and for DHA, but not other individual isomers

PWQO = Provincial Water Quality Objective

PWQG = Provincial Water Quality Guideline

(1) Total resin acids and DHA are pH dependent as shown below:

Receiving water pH	DHA (ug/L)	Total Resin Acids (ug/L)
5	1.0	1.0
5.5	1.9	2.7
6	2.5	4.2
6.5	4.2	9.3
7	8.0	25.0
7.5	11.8	45.4
8	12.9	52.4
8.5	14.0	59.8
9	14.3	61.5

PROPOSED METAL PWQO/G

Substance	Hardness(mg/L)	Proposed PWQO/G (ug/L)
Calcium	0 - 100	0.15
Calcium	> 100	0.45
Copper	0 - 20	1
Copper	>20	5
Lead	0 - 30	1
Lead	30 - 80	3
Lead	> 80	5

## **APPENDIX II**

### **LIST OF REMARK CODES**





## LIST OF REMARK CODES

<u>REMARK CODE</u>	<u>DESCRIPTION</u>
?	Late data: data not yet available: see text
!	No data will be reported: see textual reported
!IN	No data: insufficient volume due to inspection
!NM	No effluent - no sample available
<	Actual amount less than reported
<DL	Reported value = MDL :measured amount MDL (non-zero)
<T	A measurable trace amount: interpret with caution
<TE	A measurable trace after extra diln/concn: caution
<W	No measurable response (zero): reported value
<WE	No measurable response (diln/concn): reported value
>	Actual amount probably greater than reported
A	Approximate value
AIS	Approximate value: insufficient sample
AR	Attached report
I	Interference suspected
IB	Interference: background
IC	Interference: colour
IM	Interference: Sample Matrix
MP	Multiphase sample: Result may be suspect
OLD	Old: sample exceeds maximum storage time
SD	Sample duplicates differ in appearance
SID	Sample identification questionable
SIP	Sample improperly preserved
UCR	Data unreliable: could not confirm by reanalysis
UNF	Data unreliable: container not filled to top
UQC	Data unreliable: possible lab QC problem(s)
USD	Data unreliable: sample decomposition noted



## **AVERAGE CONCENTRATION TABLES**



**EXPLANATORY NOTES**  
**FOR AVERAGE CONCENTRATION TABLES**

Each appendix has the following tables:

- Table 1: Average concentrations for each parameter identified in each effluent stream.
- Table 2: Concentration data comparison between the Industry effluent monitoring data and the Ministry of the Environment inspection samples.

Any of the parameters that exhibited a long term average concentration less than twice the average travelling blank concentration were highlighted as parameters with quality control concerns in Table 1 of each Appendix. These concerns indicate that the parameters may not actually exist. The observed concentrations may be due to contamination of the laboratory blank or field blank samples.

When the average concentration of a parameter was found to be less than that of the travelling blank sample at a final effluent stream due to dilution or masking by non-contact cooling water or storm water effluent streams, the presence of the parameter was confirmed at locations prior to the dilution.

This was evident at Dofasco's control point 400 (West Bay Front Sewer) and Algoma's control point 700 (Terminal Basins) where priority pollutants generated from the cokemaking process are diluted or masked by other effluent streams combined at these final effluent streams.

Table 2 indicates that the Ministry's inspection samples are within the range of the data collected by the Industry. One inspection sample was collected from each control point monitored under the Effluent Monitoring Regulation.



## **APPENDIX III**

### **ALGOMA STEEL**

#### **FOR THE PERIOD**

**FROM NOVEMBER 1,1989 TO JULY 31,1990**





TABLE III-1.1

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0100 STREAM: BAR & STRIP LAGOON OUTFALL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	252	98	.422	.422	.422	.385		mg/L HCN
Hydrogen Ion (pH)	248	100	8.519	8.519	8.519	.425		
Total Phosphorus	40	5	.033	.038	.034	.029		mg/Las P
Specific Conductance	247	100	216.296	216.296	216.296	29.258		uS/cm@25C
Total Suspended Solids	247	88	8.931	9.538	9.393	4.576		mg/L
Aluminum	9	100	.197	.197	.197	.149		mg/L
Copper	9	22	.005	.011	.011	.003	QC	mg/L
Lead	9	44	.028	.035	.031	.021		mg/L
Molybdenum	9	22	.013	.015	.013	.012	QC	mg/L
Zinc	245	99	.281	.282	.281	.266		mg/L
Arsenic	8	88	.005	.005	.005	.002		mg/L
Selenium	8	13	.001	.004	.001	.002		mg/L
Phenolics (4AAP)	246	88	20.835	21.062	21.062	69.118		ug/L
Sulphide	4	50	.027	.037	.037	.024	QC	mg/L
o-Xylene	9	11	.070	.514	.514	.043	QC	ug/L
Benzobutylphthalate	9	11	.089	.622	.622	.067	QC	ug/L
Bis(2-ethylhexyl)phthalate	9	11	.744	1.967	1.467	.332	QC	ug/L
Pyrene	9	11	.089	.444	.356	.167	QC	ug/L
1,2,4-Trichlorobenzene	10	10	.011	.020	.020	.032		ug/L
Octachlorodibenzofuran	1	100	.069	.069	.069			ng/L
Oil and Grease	249	17	.431	1.263	.953	2.235	QC	mg/L
Dehydroabietic Acid	5	40	4.720	5.320	5.320	7.198		ug/L
Oleic Acid	5	20	3.720	6.720	4.320	6.566		ug/L
Ammonia plus Ammonium	44	98	1.295	1.295	1.295	1.126	QC	mg/Las N
Total Kjeldahl Nitrogen	1	100	.880	.880	.880			mg/Las N
Nitrate+Nitrite	5	100	.396	.396	.396	.055		mg/Las N
DOC	100	100	1.925	1.925	1.925	.318		mg/Las C
Flow	272	100	148929.059	148929.059	148929.059	22433.664		m3/day
Iron	42	100	.473	.474	.474	.312		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.2

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0200 STREAM: 60 INCH SEWER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	9	22	.001	.005	.005		QC	mg/L MCN
Hydrogen Ion (pH)	254	100	8.146	8.146	8.146	.239		
Specific Conductance	2	100	115.000	115.000	115.000			uS/cm@25C
Total Suspended Solids	251	40	3.747	6.715	5.259	4.877		mg/L
Aluminum	2	50	.039	.039	.039	.030		mg/L
Zinc	8	38	.009	.012	.010	.007		mg/L
Phenolics (4AAP)	9	78	5.002	5.224	5.244	3.597	QC	ug/L
Oil and Grease	8	38	.725	1.350	1.050	.812	QC	mg/L
Ammonia plus Ammonium	9	22	.171	.198	.173	.234	QC	mg/Las N
Nitrate+Nitrite	2	100	19.600	19.600	19.600	27.294		mg/Las N
DOC	9	100	1.916	1.916	1.916	.399		mg/Las C
Ftflow	271	100	76194.760	76194.760	76194.760	16418.225		m3/day
Iron	35	97	.098	.107	.107	.117		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.3

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0300 STREAM: 30 INCH SEWER OUTFALL CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE			STD	QC	UNIT
			MINIMUM	MAXIMUM				
			LTA	LTA	LTA			
Cyanide Total	9	78	.033	.034	.034	.040		mg/L HCN
Hydrogen Ion (pH)	266	100	7.992	7.992	7.992	.332		
Total Phosphorus	9	11	.035	.046	.038	.076		mg/Las P
Specific Conductance	2	100	142.500	142.500	142.500	10.607		us/cm25C
Total Suspended Solids	265	26	12.478	16.195	14.384	91.175		mg/L
Volatile Suspended Solids	263	2	.740	10.512	2.132	6.518		mg/L
Aluminum	2	50	.016	.030	.023	.011		mg/L
Lead	9	11	.004	.027	.012	.011	QC	mg/L
Zinc	8	38	.012	.014	.013	.010		mg/L
Mercury	2	50	.060	.110	.085	.049		ug/L
Phenolics (4AAP)	9	100	15.889	15.889	15.889	13.157		ug/L
Sulphide	2	50	.010	.020	.020		QC	mg/L
Oil and Grease	9	11	.156	1.044	.867	.400	QC	mg/L
Chlorodehydroabietic Acid	2	50	2.500	3.000	3.000	2.828		ug/L
Ammonia plus Ammonium	9	67	.544	.544	.544	.815	QC	mg/Las N
Nitrate+Nitrite	2	100	.320	.320	.320	.028		mg/Las N
OOC	9	100	2.913	2.913	2.913	1.871		mg/Las C
Ftflow	272	100	4305.360	4305.360	4305.360	690.968		m3/day
Iron	35	100	.489	.489	.489	1.056		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.4

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0400 STREAM: #1 TUBE MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	9	11	.001	.005	.005		QC	mg/L HCN
Hydrogen Ion (pH)	258	100	8.100	8.100	8.100	.415		
Total Phosphorus	35	17	.072	.077	.072	.110		mg/Las P
Specific Conductance	254	100	114.685	114.685	114.685	28.928		uS/cm@25C
Total Suspended Solids	257	65	6.922	8.693	7.955	5.871		mg/L
Volatile Suspended Solids	254	2	.140	10.046	2.915	2.180		mg/L
Aluminum	9	78	.047	.051	.048	.031		mg/L
Chromium	9	11	.003	.018	.012	.005	QC	mg/L
Copper	9	22	.006	.013	.012	.008	QC	mg/L
Lead	118	4	.002	.024	.014	.010	QC	mg/L
Molybdenum	9	11	.011	.011	.011	.017	QC	mg/L
Zinc	116	64	.019	.021	.020	.025		mg/L
Arsenic	5	40	.004	.004	.004	.004		mg/L
Phenolics (4AAP)	9	67	6.222	6.889	6.889	6.509	QC	ug/L
Sulphide	5	20	.006	.022	.022	.004	QC	mg/L
o-Xylene	7	14	.087	.516	.516	.042	QC	ug/L
Benzobutylphthalate	9	11	.144	.678	.678	.233	QC	ug/L
1,2,4-Trichlorobenzene	9	11	.002	.011	.011	.004	QC	ug/L
Hexachlorobenzene	9	11	.001	.010	.010		QC	ug/L
Oil and Grease	258	47	.886	1.421	1.231	.932		mg/L
Dehydroabiatic Acid	5	20	3.400	4.000	4.000	6.708		ug/L
Isopimaric Acid	5	20	3.600	4.400	4.400	7.603		ug/L
Oleic Acid	5	20	2.400	6.400	3.200	4.919		ug/L
Ammonia plus Ammonium	9	11	.255	.283	.260	.552	QC	mg/Las N
Nitrate+Nitrite	5	100	.324	.324	.324	.061		mg/Las N
DOC	36	100	3.317	3.317	3.317	1.952		mg/Las C
Ftflow	272	100	1526.673	1526.673	1526.673	1021.187		m3/day
Iron	37	100	.415	.417	.417	.607		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.5

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0500 STREAM: COLD MILL 24 INCH CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Cyanide Total	9	22	.006	.010	.010	.010 QC	mg/L MCN
Hydrogen Ion (pH)	263	100	7.899	7.899	7.899	.215	
Specific Conductance	2	100	112.500	112.500	112.500	3.536	uS/cm@25C
Total Suspended Solids	262	4	.224	5.056	1.976	1.327	mg/L
Aluminum	2	50	.035	.035	.035	.018	mg/L
Zinc	8	50	.016	.019	.018	.022	mg/L
Phenolics (4AAP)	9	67	4.000	4.667	4.667	2.958 QC	ug/L
1,2,3,5-Tetrachlorobenzene	2	50	.014	.020	.019	.013 QC	ug/L
Hexachlorobenzene	2	50	.006	.011	.011	.001 QC	ug/L
Hexachlorocyclopentadiene	2	50	.005	.010	.010	.001 QC	ug/L
Oil and Grease	40	13	.155	1.055	.645	.524 QC	mg/L
Abietic Acid	2	50	3.500	4.000	4.000	4.243	ug/L
Chlorodehydroabietic Acid	2	50	4.500	5.000	5.000	5.657	ug/L
Dehydroabietic Acid	2	50	4.000	4.500	4.500	4.950	ug/L
Ammonia plus Ammonium	9	22	.273	.273	.275	.552 QC	mg/Las N
Nitrate+Nitrite	2	100	.335	.335	.335	.035	mg/Las N
DOC	9	100	1.837	1.837	1.837	.448	mg/Las C
Ftflow	272	100	4322.206	4322.206	4322.206	605.733	m3/day
Iron	37	95	.077	.085	.085	.158	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.6

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0600 STREAM: COLD MILL STORM SEWER OUTFALL CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	--	----
Cyanide Total	8	25	.034	.038	.038	.094		mg/L HCN
Hydrogen Ion (pH)	8	100	7.759	7.759	7.759	.154		
Total Suspended Solids	8	25	2.650	6.400	4.725	3.909		mg/L
Zinc	8	100	.021	.021	.021	.007		mg/L
Phenolics (4AAP)	8	75	6.625	7.125	7.125	7.376	QC	ug/L
Oil and Grease	8	25	.450	1.200	.987	.633	QC	mg/L
Ammonia plus Ammonium	8	50	.477	.508	.482	.636	QC	mg/L as N
Iron	8	100	.140	.140	.140	.072		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.7

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0700 STREAM: TERMINAL SETTLING BASINS CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	161	89	.030	.031	.031	.033		mg/L HCN
Hydrogen Ion (pH)	160	100	7.828	7.828	7.828	.242		
Total Phosphorus	25	68	2.305	2.305	2.305	8.984		mg/Las P
Specific Conductance	158	100	139.937	139.937	139.937	25.589		uS/cm@25C
Total Suspended Solids	159	56	20.741	21.213	20.956	10.353		mg/L
Volatile Suspended Solids	159	12	2.486	10.410	7.030	3.673		mg/L
Aluminum	6	91	.094	.094	.094	.051		mg/L
Copper	6	18	.002	.010	.010	.001	QC	mg/L
Zinc	6	64	.009	.012	.011	.006		mg/L
Arsenic	6	27	.003	.003	.003	.002		mg/L
Selenium	6	73	.005	.005	.005	.002		mg/L
Phenolics (4AAP)	160	92	27.362	27.437	27.426	29.532		ug/L
Sulphide	158	43	.054	.063	.063	.246		mg/L
o-Xylene	5	10	.000	.500	.500		QC	ug/L
Benz(a)anthracene	5	10	.100	.500	.340	.089	QC	ug/L
Benzo(a)pyrene	5	10	.120	.600	.600		QC	ug/L
Bis(2-ethylhexyl)phthalate	5	40	2.380	3.260	2.900	1.485	QC	ug/L
Chrysene	5	10	.100	.340	.340	.089	QC	ug/L
Fluoranthene	5	10	.260	.580	.500	.447	QC	ug/L
Phenanthrene	5	10	.120	.440	.360	.134	QC	ug/L
Pyrene	5	20	.240	.560	.480	.402	QC	ug/L
1,2,3,4-Tetrachlorobenzene	5	10	.002	.010	.010		QC	ug/L
1,2,3,5-Tetrachlorobenzene	5	20	.006	.012	.012	.004	QC	ug/L
1,2,4,5-Tetrachlorobenzene	5	10	.004	.012	.012	.004	QC	ug/L
1,2,4-Trichlorobenzene	5	10	.000	.010	.010		QC	ug/L
Hexachlorobenzene	5	40	.002	.010	.010		QC	ug/L
Hexachlorocyclopentadiene	5	20	.008	.014	.014	.005	QC	ug/L
Hexachloroethane	5	10	.002	.010	.010		QC	ug/L
Pentachlorobenzene	5	10	.003	.011	.011	.001	QC	ug/L
Oil and Grease	161	66	7.977	8.039	8.034	22.896		mg/L
Dehydroabietic Acid	2	20	5.900	5.900	5.900	2.970		ug/L
Isopimaric Acid	2	20	2.500	3.000	3.000	2.828		ug/L
Oleic Acid	2	20	2.800	2.800	2.800	1.697		ug/L
Ammonia plus Ammonium	160	96	4.158	4.160	4.158	2.721		mg/Las N
Nitrate+Nitrite	2	100	.880	.880	.880	.707		mg/Las N
DOC	59	100	3.028	3.028	3.028	.784		mg/Las C
Fflow	166	100	328031.036	328031.036	328031.036	31619.330		m3/day
Iron	23	100	.437	.440	.440	.271		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.8

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0700 STREAM: TERMINAL SETTLING BASINS CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	-----
Cyanide Total	103	89	.026	.027	.027	.017		mg/L HCN
Hydrogen Ion (pH)	103	100	7.545	7.545	7.545	.149		
Total Phosphorus	16	68	.115	.115	.115	.078		mg/Les P
Specific Conductance	103	100	165.097	165.097	165.097	19.914		uS/cm@25C
Total Suspended Solids	103	56	.181	5.035	1.936	1.067		mg/L
Volatile Suspended Solids	101	12	.000	10.000	1.087	.216		mg/L
Aluminum	5	91	.095	.101	.096	.100		mg/L
Copper	5	18	.004	.010	.010	.004	QC	mg/L
Zinc	5	64	.014	.014	.014	.008		mg/L
Arsenic	5	27	.008	.008	.008	.011		mg/L
Selenium	5	73	.008	.008	.008	.004		mg/L
Chromium (hexavalent)	1	100	.013	.013	.013			mg/L
Phenolics (4AAP)	102	92	9.353	9.667	9.667	10.300		ug/L
Sulphide	104	43	.009	.025	.025	.015		mg/L
o-Xylene	5	10	.128	.528	.528	.063	QC	ug/L
Benz(a)anthracene	5	10	.000	.500	.300		QC	ug/L
Benzo(a)pyrene	5	10	.000	.600	.600		QC	ug/L
Bis(2-ethylhexyl)phthalate	5	40	.480	2.240	1.520	.492	QC	ug/L
Chrysene	5	10	.000	.300	.300		QC	ug/L
Fluoranthene	5	10	.000	.400	.300		QC	ug/L
Phenanthrene	5	10	.000	.400	.300		QC	ug/L
Pyrene	5	20	.140	.460	.380	.179	QC	ug/L
1,2,3,4-Tetrachlorobenzene	5	10	.000	.010	.010		QC	ug/L
1,2,3,5-Tetrachlorobenzene	5	20	.000	.010	.010		QC	ug/L
1,2,4,5-Tetrachlorobenzene	5	10	.000	.010	.010		QC	ug/L
1,2,4-Trichlorobenzene	5	10	.013	.021	.021	.025	QC	ug/L
Hexachlorobenzene	5	40	.013	.017	.017	.007	QC	ug/L
Hexachlorocyclopentadiene	5	20	.000	.010	.010		QC	ug/L
Hexachloroethane	5	10	.000	.010	.010		QC	ug/L
Pentachlorobenzene	5	10	.000	.010	.010		QC	ug/L
Oil and Grease	103	66	.271	1.057	.902	.380		mg/L
Dehydroabietic Acid	3	20	.000	1.000	1.000			ug/L
Isopimaric Acid	3	20	.000	1.000	1.000			ug/L
Oleic Acid	3	20	2.000	5.333	2.667	2.887		ug/L
Ammonia plus Ammonium	102	96	6.002	6.005	6.002	2.552		mg/Les N
Total Kjeldahl Nitrogen	2	50	3.855	3.855	3.855	5.127		mg/Les N
Nitrate+Nitrite	3	100	.827	.827	.827	.535		mg/Les N
DOC	47	100	2.805	2.805	2.805	.488		mg/Les C
Ftflow	106	100	347065.179	347065.179	347065.179	39903.472		m3/day
Iron	16	100	.249	.249	.249	.367		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION



TABLE III-1.9

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0800 STREAM: BOILER HOUSE CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	LTA	LTA	---	---	---	----
Hydrogen Ion (pH)	4	100	7.997	7.997	7.997	.242		
Specific Conductance	2	100	77.500	77.500	77.500	3.536		us/cm25C
Aluminum	2	100	.039	.039	.039	.006		mg/L
Zinc	4	75	.013	.013	.013	.009		mg/L
Phenolics (4AAP)	4	50	5.000	6.000	6.000	6.733	QC	ug/L
Naphthalene	2	50	1.150	1.950	1.700	.849	QC	ug/L
Isopimaric Acid	2	50	25.500	26.000	26.000	35.355		ug/L
Oleic Acid	1	100	7.000	7.000	7.000			ug/L
Ammonia plus Ammonium	4	25	.140	.202	.146	.164	QC	mg/Las N
Nitrate+Nitrite	2	100	.340	.340	.340	.042		mg/Las N
DOC	4	100	2.002	2.002	2.002	.238		mg/Las C
Ftflow	4	100	141642.000	141642.000	141642.000			m3/day
Iron	4	100	.059	.059	.059	.046		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.10

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 1000    STREAM: #2 STEELMAKING COOLING WATER    CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	----
Hydrogen Ion (pH)	8	100	7.987	7.987	7.987	.079		
Specific Conductance	2	100	107.500	107.500	107.500	24.749		uS/cm@25C
Aluminum	2	50	.031	.031	.031	.022		mg/L
Lead	9	11	.019	.043	.030	.053		mg/L
Zinc	9	33	.010	.015	.012	.016		mg/L
Phenolics (4AAP)	9	33	1.779	2.890	2.911	2.593	QC	ug/L
Oil and Grease	8	13	.000	1.000	.575	.456	QC	mg/L
Chlorodehydroabietic Acid	2	50	4.000	4.500	4.500	4.950		ug/L
Dehydroabietic Acid	2	50	2.500	3.000	3.000	2.828		ug/L
Oleic Acid	2	50	7.000	9.500	7.500	9.192		ug/L
Ammonia plus Ammonium	9	22	.163	.219	.171	.313	QC	mg/Las N
Nitrate+Nitrite	2	100	.350	.350	.350	.057		mg/Las N
DOC	9	100	1.819	1.819	1.819	.342		mg/Las C
Flow	9	100	52911.000	52911.000	52911.000	9674.361		m3/day
Iron	9	100	.123	.126	.126	.118		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.11

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 1200 STREAM: #1 THICKENER CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	92	22	.007	.011	.011	.022	QC	mg/L HCN
Hydrogen Ion (pH)	85	100	10.665	10.665	10.665	1.664		
Total Suspended Solids	85	100	79.445	79.445	79.445	157.529		mg/L
Volatile Suspended Solids	85	7	4.880	13.704	6.906	35.797		mg/L
Chromium	90	6	.004	.016	.009	.010	QC	mg/L
Lead	89	15	.014	.031	.025	.033		mg/L
Zinc	90	68	.036	.037	.037	.071		mg/L
Phenolics (4AAP)	91	95	67.462	67.571	67.571	204.126		ug/L
Oil and Grease	86	20	.381	1.184	.858	.909	QC	mg/L
Ammonia plus Ammonium	91	76	.889	.892	.890	.902	QC	mg/Les N
Flow	92	100	15116.641	15116.641	15116.641	3983.073		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the Bar & Strip Lagoon (control point 0100).

TABLE III-1.12

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1300 STREAM: #2 THICKENER CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	LTA	LTA	---	---	---	-----
Cyanide Total	119	100	1.718	1.718	1.718	2.115		mg/L HCN
Hydrogen Ion (pH)	88	100	8.203	8.203	8.203	.270		
Total Suspended Solids	112	100	33.414	33.414	33.414	16.656		mg/L
Volatile Suspended Solids	110	4	.447	9.993	3.464	2.465		mg/L
Chromium	85	4	.003	.019	.009	.010	QC	mg/L
Lead	85	78	.133	.136	.135	.128		mg/L
Zinc	115	97	.794	.794	.794	.829		mg/L
Phenolics (4AAP)	117	97	60.974	61.026	61.026	170.302		ug/L
Oil and Grease	87	20	.306	1.087	.847	.539	QC	mg/L
Ammonia plus Ammonium	117	99	2.418	2.418	2.418	.964		mg/L as N
Ftflow	119	100	51350.908	51350.908	51350.908	5892.877		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the Bar &amp; Strip Lagoon (control point 0100).

TABLE III-1.13

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1400 STREAM: BY-PRODUCTS AREA CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	-----
Cyanide Total	120	100	6.200	6.200	6.200	4.820		mg/L HCN
Total Suspended Solids	115	97	31.256	31.386	31.372	97.174		mg/L
Volatile Suspended Solids	112	34	13.168	19.507	16.661	40.493		mg/L
Phenolics (4AAP)	120	100	12852.000	12852.000	12852.000	12138.233		ug/L
Benzene	118	94	1666.476	1666.506	1666.506	11935.504		ug/L
Ethylbenzene	6	17	.512	1.012	.928	1.049	QC	ug/L
Styrene	6	33	1.252	1.585	1.585	2.604		ug/L
Toluene	6	100	940.327	940.327	940.327	2277.906		ug/L
m-Xylene and p-Xylene	6	50	28.337	28.703	28.670	62.021		ug/L
o-Xylene	6	50	14.742	14.992	14.992	34.307		ug/L
1-Methylnaphthalene	7	14	107.171	109.457	108.671	282.359		ug/L
2-Methylnaphthalene	7	14	245.714	247.600	247.429	649.343		ug/L
Acenaphthene	7	14	19.571	20.686	20.429	51.403		ug/L
Acenaphthylene	7	57	311.314	311.914	311.614	815.071		ug/L
Anthracene	7	43	111.229	111.914	111.686	290.296		ug/L
Benz(a)anthracene	7	86	107.900	107.971	107.943	269.999		ug/L
Benzo(a)pyrene	114	89	4.728	4.786	4.786	7.051		ug/L
Benzo(b)fluoranthene	7	86	118.871	118.971	118.971	283.071		ug/L
Benzo(g,h,i)perylene	7	71	76.071	76.271	76.271	176.632		ug/L
Benzo(k)fluoranthene	7	86	66.429	66.529	66.529	150.940		ug/L
Bis(2-ethylhexyl)phthalate	7	29	9.071	10.014	9.629	20.046		ug/L
Chrysene	7	86	115.843	115.886	115.886	289.000		ug/L
Dibenz(a,h)anthracene	7	29	15.986	16.914	16.914	39.320		ug/L
Fluoranthene	7	86	404.586	404.643	404.629	1051.898		ug/L
Fluorene	7	43	131.214	132.186	131.900	343.994		ug/L
Indeno(1,2,3-cd)pyrene	7	71	82.414	82.986	82.929	192.648		ug/L
Indole	7	29	618.571	619.929	619.286	1063.195		ug/L
Naphthalene	114	88	16.778	16.961	16.904	30.153		ug/L
Perylene	7	71	40.443	40.871	40.757	89.393		ug/L
Phenanthrene	7	43	403.329	403.557	403.500	1052.388		ug/L
Pyrene	7	86	300.529	300.586	300.571	780.287		ug/L
Oil and Grease	117	79	7.443	7.648	7.624	28.737		mg/L
Ammonia plus Ammonium	120	100	977.760	977.760	977.760	339.286		mg/Las N
Ftflow	113	100	1134.522	1134.522	1134.522	534.208		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the Terminal Settling Basins (control point 0700).

TABLE III-1.14

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1500 STREAM: COLD MILL 20 INCH CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Cyanide Total	10	20	.001	.005	.005	.001 QC	mg/L HCN
Hydrogen Ion (pH)	264	100	7.913	7.913	7.913	.133	
Total Phosphorus	9	11	3.903	3.925	3.906	11.660	mg/Las P
Specific Conductance	2	100	112.500	112.500	112.500	3.536	uS/cm@25C
Total Suspended Solids	263	8	.600	5.182	2.458	1.935	mg/L
Aluminum	2	50	.033	.033	.033	.026	mg/L
Zinc	10	50	.011	.014	.012	.008	mg/L
Phenolics (4AAP)	8	75	3.875	4.375	4.375	2.875 QC	ug/L
Benzobutylphthalate	2	50	.550	.850	.850	.354 QC	ug/L
Oil and Grease	40	20	.260	1.060	.782	.475 QC	mg/L
Chlorodehydroabietic Acid	2	50	3.500	4.000	4.000	4.243	ug/L
Dehydroabietic Acid	2	50	8.000	8.000	8.000	8.485	ug/L
Ammonia plus Ammonium	8	38	.951	.951	.951	2.149 QC	mg/Las N
Nitrate+Nitrite	2	50	.195	.195	.195	.233	mg/Las N
DOC	9	100	1.771	1.771	1.771	.263	mg/Las C
Ftflow	272	100	4718.004	4718.004	4718.004	330.688	m3/day
Iron	10	100	.065	.068	.068	.051	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.15

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1600 STREAM: COKE OVEN CONDENSER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	10	60	.008	.010	.010	.008	QC	mg/L HCM
Hydrogen Ion (pH)	10	100	8.201	8.201	8.201	.214		
Specific Conductance	2	100	100.000	100.000	100.000	28.284		uS/cm@25C
Aluminum	2	50	.036	.036	.036	.028		mg/L
Zinc	10	40	.006	.011	.009	.006		mg/L
Phenolics (4AAP)	9	100	39.444	39.444	39.444	27.902		ug/L
Benzobutylphthalate	2	50	.600	.900	.900	.424	QC	ug/L
Chrysene	2	50	.150	.300	.300		QC	ug/L
Fluoranthene	2	50	.350	.550	.500	.283	QC	ug/L
Pyrene	2	50	.250	.450	.400	.141	QC	ug/L
Pentachlorobenzene	2	50	.010	.014	.014	.006	QC	ug/L
Chlorodehydroabiatic Acid	2	50	4.500	5.000	5.000	5.657		ug/L
Dehydroabiatic Acid	2	50	7.000	7.500	7.500	9.192		ug/L
Ammonia plus Ammonium	9	67	.413	.413	.413	.245	QC	mg/L as N
Nitrate+Nitrite	2	100	.385	.385	.385	.021		mg/L as N
DOC	9	100	1.901	1.901	1.901	.224		mg/L as C
Flow	10	100	7937.900	7937.900	7937.900	855.461		m <sup>3</sup> /day
Iron	10	90	.060	.071	.070	.077		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-1.16

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1800 STREAM: #2 TUBE MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
			LTA	LTA				
Hydrogen Ion (pH)	261	100	7.973	7.973	7.973	.190		
Total Phosphorus	36	33	.130	.130	.131	.287		mg/Las P
Specific Conductance	258	100	133.101	133.101	133.101	36.600		uS/cm@25C
Total Suspended Solids	260	21	1.580	5.522	3.620	3.553		mg/L
Copper	10	30	.004	.010	.010	.002	QC	mg/L
Lead	117	9	.005	.026	.014	.016	QC	mg/L
Molybdenum	10	60	.056	.058	.057	.056		mg/L
Zinc	117	75	.027	.027	.027	.054		mg/L
Arsenic	7	43	.005	.005	.005	.004		mg/L
Chromium (hexavalent)	1	100	.019	.019	.019			mg/L
Phenolics (4AAP)	9	67	3.667	4.333	4.333	2.500	QC	ug/L
Sulphide	6	33	.012	.025	.025	.008	QC	mg/L
Chloroform	9	78	4.077	4.232	4.232	5.194		ug/L
o-Xylene	8	13	.074	.511	.511	.032	QC	ug/L
Benzobutylphthalate	8	13	.112	.637	.637	.106	QC	ug/L
1,2,3,5-Tetrachlorobenzene	8	25	.013	.020	.020	.027		ug/L
1,2,4,5-Tetrachlorobenzene	8	13	.002	.011	.011	.002	QC	ug/L
1,2,4-Trichlorobenzene	8	25	.010	.017	.017	.014	QC	ug/L
Hexachlorobenzene	8	25	.003	.010	.010	.001	QC	ug/L
Octachlorodibenzofuran	1	100	1.000	1.000	1.000			ng/L
Oil and Grease	259	63	1.511	1.890	1.774	1.774		mg/L
Abietic Acid	5	20	1.000	1.800	1.800	1.789		ug/L
Chlorodehydroabietic Acid	5	20	1.800	2.600	2.600	3.578		ug/L
Dehydroabietic Acid	5	60	10.960	11.360	11.360	14.600		ug/L
Isopimaric Acid	5	40	9.680	9.880	9.880	11.431		ug/L
Oleic Acid	5	20	2.120	5.120	2.720	3.032		ug/L
Ammonia plus Ammonium	9	11	.087	.114	.090	.133	QC	mg/Las N
Total Kjeldahl Nitrogen	6	17	.280	.280	.280	.127		mg/Las N
Nitrate+Nitrite	6	17	.066	.149	.079	.133		mg/Las N
DOC	35	100	6.968	6.968	6.968	5.902		mg/Las C
TOC	4	75	5.065	5.065	5.065	2.390		mg/Las C
Flow	121	100	879.430	879.430	879.430	130.118		m3/day
Iron	39	100	.341	.343	.343	.232		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMOL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION



TABLE III-1.17

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ALGOMA STEEL

CONTROL POINT: 2000 STREAM: 24 INCH COKE QUENCH EMERGENCY OVERFLOW CLASSIFICATION: EMERGENCY OVERFLOW  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	LTA	LTA	---	---	---	----
Cyanide Total	225	91	.329	.329	.329	.683		mg/L HCN
Hydrogen Ion (pH)	221	100	8.440	8.440	8.440	.504		
Total Suspended Solids	221	98	142.125	142.193	142.168	149.421		mg/L
Chromium	220	7	.008	.020	.014	.045	QC	mg/L
Lead	217	9	.005	.024	.016	.012	QC	mg/L
Zinc	220	67	.083	.086	.084	.230		mg/L
Phenolics (4AAP)	223	97	1260.498	1260.552	1260.552	2498.209		ug/L
Benzene	218	34	28.159	28.485	28.485	305.385		ug/L
Benzo(a)pyrene	219	15	.374	.886	.886	2.869	QC	ug/L
Naphthalene	219	18	1.913	3.170	2.777	5.732	QC	ug/L
Oil and Grease	221	45	1.460	2.012	1.783	3.380		mg/L
Ammonia plus Ammonium	223	98	68.184	68.184	68.184	131.213		mg/Las N
Ftflow	144	100	7101.049	7101.049	7101.049	637.107		m3/day
Iron	220	100	1.654	1.654	1.654	2.152		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC  
I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE III-2.1

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0100 STREAM: BAR & STRIP LAGOON OUTFALL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	252	.005	2.510	.990	.005	mg/L HCN
3	Hydrogen Ion (pH)	248	7.300	9.420	8.850		
6	Total Phosphorus	40	.010	.160	.020	.100	mg/Las P
7	Specific Conductance	247	150.000	330.000	260.000	5.000	uS/cm25C
8	Total Suspended Solids	247	1.000	40.600	20.300	5.000	mg/L
9	Aluminum	9	.058	.450	.260	.030	mg/L
	Copper	9	.008	.018	.001	.010	mg/L
	Lead	9	.003	.074	.095	.030	mg/L
	Molybdenum	9	.005	.041	.016	.020	mg/L
	Zinc	245	.005	2.626	.520	.010	mg/L
10	Arsenic	8	.003	.009	.007	.005	mg/L
	Selenium	8	.001	.005	.001	.005	mg/L
14	Phenolics (4AAP)	246	.300	800.000	11.400	2.000	ug/L
15	Sulphide	4	.020	.070	.008	.020	mg/L
17	o-Xylene	9	.500	.630	.200	.500	ug/L
19	Benzobutylphthalate	9	.600	.800	.500	.600	ug/L
	Bis(2-ethylhexyl)phthalate	9	1.300	2.300	1.000	2.200	ug/L
	Pyrene	9	.300	.800	.200	.400	ug/L
23	1,2,4-Trichlorobenzene	10	.010	.110	.002	.010	ug/L
24	Octachlorodibenzofuran	1	.069	.069		.030	ng/L
25	Oil and Grease	249	.100	32.400	1.000	1.000	mg/L
26	Dehydroabiatic Acid	5	1.000	17.600	5.000	5.000	ug/L
	Oleic Acid	5	1.000	16.000	5.000	5.000	ug/L
4a	Ammonia plus Ammonium	44	.100	7.040	1.100	.250	mg/Las N
	Total Kjeldahl Nitrogen	1	.880	.880	1.900	.500	mg/Las N
4b	Nitrate+Nitrite	5	.310	.450	.350	.250	mg/Las N
5a	DOC	100	1.100	3.080	1.600	.500	mg/Las C
98	Ftflow	272	77216.000	194816.000		m3/day	
IS1	Iron	42	.027	1.700	2.200	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.2

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0200 STREAM: 60 INCH SEWER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	9	.005	.006	.001	.005 mg/L KCN
3	Hydrogen Ion (pH)	254	7.100	9.110	7.930	
7	Specific Conductance	2	115.000	115.000	106.000	5.000 uS/cm@25C
8	Total Suspended Solids	251	.500	40.600	4.700	5.000 mg/L
9	Aluminum	2	.018	.060	.081	.030 mg/L
	Zinc	8	.005	.024	.024	.010 mg/L
14	Phenolics (4AAP)	9	.200	10.000		2.000 ug/L
25	Oil and Grease	8	.200	2.200	1.000	1.000 mg/L
4a	Ammonia plus Ammonium	9	.025	.770	.050	.250 mg/L as N
4b	Nitrate+Nitrite	2	.300	38.900	.400	.250 mg/L as N
5a	DOC	9	1.470	2.700	1.900	.500 mg/L as C
98	Ftflow	271	8916.000	124662.000		m3/day
1S1	Iron	35	.018	.562	.240	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.3

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0300 STREAM: 30 INCH SEWER OUTFALL CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	9	.005	.130	.020	.005	mg/L HCN
3	Hydrogen Ion (pH)	266	6.900	9.100	8.610		
6	Total Phosphorus	9	.010	.240	.020	.100	mg/Les P
7	Specific Conductance	2	135.000	150.000	391.000	5.000	uS/cm@25C
8	Total Suspended Solids	265	.500	1270.000	5.800	5.000	mg/L
	Volatile Suspended Solids	263	1.000	87.200	3.600	10.000	mg/L
9	Aluminum	2	.016	.031	.140	.030	mg/L
	Lead	9	.003	.032	.005	.030	mg/L
	Zinc	8	.005	.033	.016	.010	mg/L
12	Mercury	2	.050	.120	.020	.190	ug/L
14	Phenolics (4AAP)	9	4.000	39.000	9.600	2.000	ug/L
15	Sulphide	2	.020	.020	1.853	.020	mg/L
25	Oil and Grease	9	.200	1.400	1.000	1.000	mg/L
26	Chlorodehydroabietic Acid	2	1.000	5.000	5.000	5.000	ug/L
4a	Ammonia plus Ammonium	9	.130	2.690	.550	.250	mg/Les N
4b	Nitrate+Nitrite	2	.300	.340	.250	.250	mg/Les N
5a	DOC	9	1.500	7.700	2.100	.500	mg/Les C
98	Ftflow	272	734.000	6721.000		m3/day	
IS1	Iron	35	.110	6.450	.760	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.4

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0400 STREAM: #1 TUBE MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	9	.005	.005	.001	.005 mg/L HCN
3	Hydrogen Ion (pH)	258	7.200	9.300	7.960	
6	Total Phosphorus	35	.010	.540	.040	.100 mg/Las P
7	Specific Conductance	254	80.000	220.000	155.000	5.000 uS/cm @ 25°C
8	Total Suspended Solids	257	.500	43.000	6.800	5.000 mg/L
	Volatile Suspended Solids	254	1.000	16.000	6.000	10.000 mg/L
9	Aluminum	9	.005	.110	.067	.030 mg/L
	Chromium	9	.005	.020	.002	.020 mg/L
	Copper	9	.003	.032	.001	.010 mg/L
	Lead	118	.003	.050	.005	.030 mg/L
	Molybdenum	9	.002	.054	.005	.020 mg/L
	Zinc	116	.003	.181	.015	.010 mg/L
10	Arsenic	5	.001	.010	.001	.005 mg/L
14	Phenolics (4AAP)	9	2.000	19.000	.400	2.000 ug/L
15	Sulphide	5	.020	.030	.002	.020 mg/L
17	o-Xylene	7	.500	.610	.200	.500 ug/L
19	Benzobutylphthalate	9	.600	1.300	.500	.600 ug/L
23	1,2,4-Trichlorobenzene	9	.010	.021	.002	.010 ug/L
	Hexachlorobenzene	9	.010	.011	.001	.010 ug/L
25	Oil and Grease	258	.100	5.200	.100	1.000 mg/L
26	Dehydroabietic Acid	5	1.000	16.000	5.000	5.000 ug/L
	Isopimaric Acid	5	1.000	18.000	5.000	5.000 ug/L
	Oleic Acid	5	1.000	12.000	5.000	5.000 ug/L
4a	Ammonia plus Ammonium	9	.025	1.720	.050	.250 mg/Las N
4b	Nitrate+Nitrite	5	.250	.380	.250	.250 mg/Las N
5a	DOC	36	1.300	12.200	2.300	.500 mg/Las C
98	Ftflow	272	51.000	3947.000		m3/day
IS1	Iron	37	.030	3.040	.079	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.5

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0500 STREAM: COLD MILL 24 INCH CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	9	.005	.029	.001	.005 mg/L HCN
3	Hydrogen Ion (pH)	263	7.500	9.830	7.980	
7	Specific Conductance	2	110.000	115.000	103.000	5.000 uS/cm@25C
8	Total Suspended Solids	262	.500	10.000	2.000	5.000 mg/L
9	Aluminum	2	.023	.048	.077	.030 mg/L
	Zinc	8	.005	.070	.002	.010 mg/L
14	Phenolics (4AAP)	9	2.000	10.000	.600	2.000 ug/L
23	1,2,3,5-Tetrachlorobenzene	2	.010	.029	.001	.010 ug/L
	Hexachlorobenzene	2	.010	.012	.001	.010 ug/L
	Hexachlorocyclopentadiene	2	.010	.011	.001	.010 ug/L
25	Oil and Grease	40	.100	2.000	2.000	1.000 mg/L
26	Abietic Acid	2	1.000	7.000	5.000	5.000 ug/L
	Chlorodehydroabietic Acid	2	1.000	9.000	5.000	5.000 ug/L
	Dehydroabietic Acid	2	1.000	8.000	5.000	5.000 ug/L
4a	Ammonia plus Ammonium	9	.025	1.730	.050	.250 mg/Las N
4b	Nitrate+Nitrite	2	.310	.360	.350	.250 mg/Las N
5a	DOC	9	1.400	2.510	1.600	.500 mg/Las C
98	Ftflow	272	2659.000	5420.000		m3/day
1S1	Iron	37	.018	.910	.061	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.6

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0700 STREAM: TERMINAL SETTLING BASINS CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900415

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	161	.005	.270	.046	.005 mg/L HCN
3	Hydrogen Ion (pH)	160	7.400	8.800	7.500	
6	Total Phosphorus	25	.033	44.900	.300	.100 mg/Las P
7	Specific Conductance	158	70.000	245.000	192.000	5.000 uS/cm@25C
8	Total Suspended Solids	159	1.000	64.400	3.300	5.000 mg/L
	Volatile Suspended Solids	159	1.000	24.200	2.700	10.000 mg/L
9	Aluminum	6	.042	.170	.063	.030 mg/L
	Copper	6	.010	.013	.001	.010 mg/L
	Zinc	6	.005	.020	.006	.010 mg/L
10	Arsenic	6	.001	.005	.003	.005 mg/L
	Selenium	6	.001	.007	.007	.005 mg/L
14	Phenolics (4AAP)	160	.200	310.000	4.400	2.000 ug/L
15	Sulphide	158	.003	3.030	.002	.020 mg/L
17	o-Xylene	5	.500	.500	.200	.500 ug/L
19	Benz(a)anthracene	5	.300	.500	.200	.500 ug/L
	Benzo(a)pyrene	5	.600	.600	.200	.600 ug/L
	Bis(2-ethylhexyl)phthalate	5	1.300	4.400	3.000	2.200 ug/L
	Chrysene	5	.300	.500	.200	.300 ug/L
	Fluoranthene	5	.300	1.300	.200	.400 ug/L
	Phenanthrene	5	.300	.600	.200	.400 ug/L
	Pyrene	5	.300	1.200	.200	.400 ug/L
23	1,2,3,4-Tetrachlorobenzene	5	.010	.010	.001	.010 ug/L
	1,2,3,5-Tetrachlorobenzene	5	.010	.018	.001	.010 ug/L
	1,2,4,5-Tetrachlorobenzene	5	.010	.018	.001	.010 ug/L
	1,2,4-Trichlorobenzene	5	.010	.010	.002	.010 ug/L
	Hexachlorobenzene	5	.010	.010	.001	.010 ug/L
	Hexachlorocyclopentadiene	5	.010	.020	.001	.010 ug/L
	Hexachloroethane	5	.010	.011	.001	.010 ug/L
	Pentachlorobenzene	5	.010	.013	.001	.010 ug/L
25	Oil and Grease	161	.200	215.200	.100	1.000 mg/L
26	Dehydroabietic Acid	2	3.800	8.000	5.000	5.000 ug/L
	Isopimaric Acid	2	1.000	5.000	5.000	5.000 ug/L
	Oleic Acid	2	1.600	4.000	11.000	5.000 ug/L
4a	Ammonia plus Ammonium	160	.025	12.500	4.450	.250 mg/Las N
4b	Nitrate+Nitrite	2	.380	1.380	2.650	.250 mg/Las N
5a	DOC	59	1.600	6.400	3.100	.500 mg/Las C
98	Ftflow	166	236820.000	408065.000		m3/day
1S1	Iron	23	.030	1.030	.200	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.7

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0700 STREAM: TERMINAL SETTLING BASINS CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 900416 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT
			MIN	MAX			
---	-----	---	-----	-----	-----	-----	-----
2	Cyanide Total	103	.005	.072	.046	.005	mg/L HCN
3	Hydrogen Ion (pH)	103	7.180	7.900	7.500		
6	Total Phosphorus	16	.020	.280	.300	.100	mg/Las P
7	Specific Conductance	103	110.000	240.000	192.000	5.000	uS/cm@25C
8	Total Suspended Solids	103	1.000	7.000	3.300	5.000	mg/L
	Volatile Suspended Solids	101	1.000	2.200	2.700	10.000	mg/L
9	Aluminum	5	.005	.240	.063	.030	mg/L
	Copper	5	.004	.015	.001	.010	mg/L
	Zinc	5	.008	.027	.006	.010	mg/L
10	Arsenic	5	.002	.027	.003	.005	mg/L
	Selenium	5	.004	.012	.007	.005	mg/L
11	Chromium (hexavalent)	1	.013	.013		.010	mg/L
14	Phenolics (4AAP)	102	2.000	58.000	4.400	2.000	ug/L
15	Sulphide	104	.020	.110	.002	.020	mg/L
17	o-Xylene	5	.500	.640	.200	.500	ug/L
19	Benz(a)anthracene	5	.300	.300	.200	.500	ug/L
	Benzo(a)pyrene	5	.600	.600	.200	.600	ug/L
	Bis(2-ethylhexyl)phthalate	5	1.300	2.400	3.000	2.200	ug/L
	Chrysene	5	.300	.300	.200	.300	ug/L
	Fluoranthene	5	.300	.300	.200	.400	ug/L
	Phenanthrene	5	.300	.300	.200	.400	ug/L
	Pyrene	5	.300	.700	.200	.400	ug/L
23	1,2,3,4-Tetrachlorobenzene	5	.010	.010	.001	.010	ug/L
	1,2,3,5-Tetrachlorobenzene	5	.010	.010	.001	.010	ug/L
	1,2,4,5-Tetrachlorobenzene	5	.010	.010	.001	.010	ug/L
	1,2,4-Trichlorobenzene	5	.010	.066	.002	.010	ug/L
	Hexachlorobenzene	5	.010	.023	.001	.010	ug/L
	Hexachlorocyclopentadiene	5	.010	.010	.001	.010	ug/L
	Hexachloroethane	5	.010	.010	.001	.010	ug/L
	Pentachlorobenzene	5	.010	.010	.001	.010	ug/L
25	Oil and Grease	103	.200	1.800	.100	1.000	mg/L
26	Dehydroabietic Acid	3	1.000	1.000	5.000	5.000	ug/L
	Isopimaric Acid	3	1.000	1.000	5.000	5.000	ug/L
	Oleic Acid	3	1.000	6.000	11.000	5.000	ug/L
4a	Ammonia plus Ammonium	102	.025	22.200	4.450	.250	mg/Las N
	Total Kjeldahl Nitrogen	2	.230	7.480	5.700	.500	mg/Las N
4b	Nitrate+Nitrite	3	.460	1.440	2.650	.250	mg/Las N
5a	DOC	47	2.200	4.250	3.100	.500	mg/Las C
98	Ftflow	106	242015.000	426261.000			m3/day
IS1	Iron	16	.091	1.605	.200	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONC = MINIMUM CONCENTRATION  
 MAX CONC = MAXIMUM CONCENTRATION  
 INSPEC CONC = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



TABLE III-2.8

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 0800 STREAM: BOILER HOUSE CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT
			MIN	MAX			
---	-----	---	CONCN	CONCN	CONCN	-----	----
3	Hydrogen Ion (pH)	4	7.800	8.350	7.970		
7	Specific Conductance	2	75.000	80.000	102.000	5.000	us/cm@25C
9	Aluminum	2	.035	.044	.025	.030	mg/L
	Zinc	4	.005	.026	.002	.010	mg/L
14	Phenolics (4AAP)	4	2.000	16.000	1.000	2.000	ug/L
19	Naphthalene	2	1.100	2.300	.200	1.600	ug/L
26	Isopimaric Acid	2	1.000	51.000	5.000	5.000	ug/L
	Oleic Acid	1	7.000	7.000	5.000	5.000	ug/L
4a	Ammonia plus Ammonium	4	.025	.380	.050	.250	mg/Las N
4b	Nitrate+Nitrite	2	.310	.370	.300	.250	mg/Las N
5a	DOC	4	1.700	2.280	1.900	.500	mg/Las C
98	Ftflow	4	141642.000	141642.000			m3/day
1S1	Iron	4	.031	.127	.063	.020	mg/L

TNS = TOTAL NUMBER OF VALIO SAMPLES FOR CONCENTRATIONS

MIN CONCN = MINIMUM CONCENTRATION

MAX CONCN = MAXIMUM CONCENTRATION

INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION

RMDL = REGULATION METHOD OF DETECTION LIMIT

UNIT = UNIT OF CONCENTRATION

TABLE III-2.9

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1000 STREAM: #2 STEELMAKING COOLING WATER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL UNIT
			MIN	MAX		
---	-----	---	CONCN	CONCN	CONCN	-----
3	Hydrogen Ion (pH)	8	7.900	8.150	7.960	
7	Specific Conductance	2	90.000	125.000	120.000	5.000 $\mu\text{S}/\text{cm}^2$
9	Aluminum	2	.016	.047	.130	.030 mg/L
	Lead	9	.003	.170	.013	.030 mg/L
	Zinc	9	.005	.052	.013	.010 mg/L
14	Phenolics (4AAP)	9	.200	9.000	4.000	2.000 $\mu\text{g}/\text{L}$
25	Oil and Grease	8	.100	1.000	.100	1.000 mg/L
26	Chlorodehydroabietic Acid	2	1.000	8.000	5.000	5.000 $\mu\text{g}/\text{L}$
	Dehydroabietic Acid	2	1.000	5.000	5.000	5.000 $\mu\text{g}/\text{L}$
	Oleic Acid	2	1.000	14.000	5.000	5.000 $\mu\text{g}/\text{L}$
4a	Ammonia plus Ammonium	9	.025	.980	.050	.250 mg/L as N
4b	Nitrate+Nitrite	2	.310	.390	.300	.250 mg/L as N
5a	DOC	9	1.500	2.590	1.600	.500 mg/L as C
98	Ftflow	9	33600.000	61939.000		m <sup>3</sup> /day
IS1	Iron	9	.030	.390	.160	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.10

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1200 STREAM: #1 THICKENER CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	92	.005	.150	.002	.005	mg/L HCN
3	Hydrogen Ion (pH)	85	3.300	11.900	11.400		
8	Total Suspended Solids	85	8.800	1153.000	30.200	5.000	mg/L
	Volatile Suspended Solids	85	1.000	331.800	7.100	10.000	mg/L
9	Chromium	90	.002	.070	.006	.020	mg/L
	Lead	89	.003	.260	.025	.030	mg/L
	Zinc	90	.003	.490	.006	.010	mg/L
14	Phenolics (4AAP)	91	2.000	1450.000	17.600	2.000	ug/L
25	Oil and Grease	86	.100	6.400	1.000	1.000	mg/L
4a	Ammonia plus Ammonium	91	.025	5.900	1.150	.250	mg/Les N
98	Ftflow	92	6813.000	25429.000			m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.11

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1300 STREAM: #2 THICKENER CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT
			MIN	MAX			
---	-----	---	-----	-----	-----	-----	-----
2	Cyanide Total	119	.009	16.300	3.700	.005	mg/L HCN
3	Hydrogen Ion (pH)	88	7.640	9.100	7.420		
8	Total Suspended Solids	112	9.400	95.800	35.100	5.000	mg/L
	Volatile Suspended Solids	110	1.000	14.800	6.000	10.000	mg/L
9	Chromium	85	.002	.082	.002	.020	mg/L
	Lead	85	.011	.640	.240	.030	mg/L
	Zinc	115	.007	6.617	1.300	.010	mg/L
14	Phenolics (4AAP)	117	2.000	1800.000	50.800	2.000	ug/L
25	Oil and Grease	87	.100	2.800	.100	1.000	mg/L
4a	Ammonia plus Ammonium	117	.060	6.230	2.450	.250	mg/Las N
98	Ftflow	119	37411.000	75967.000			m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.12

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1400 STREAM: BY-PRODUCTS AREA CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT	
			MIN CONCN	MAX CONCN				
2	Cyanide Total	120	.410	28.900	8.900	.005	mg/L	HCN
8	Total Suspended Solids	115	4.000	735.600	12.000	5.000	mg/L	
	Volatile Suspended Solids	112	1.000	319.400	9.700	10.000	mg/L	
14	Phenolics (4AAP)	120	1470.000	123000.000	9600.000	2.000	ug/L	
17	Benzene	118	.500	126000.000	30.000	.500	ug/L	
	Ethylbenzene	6	.500	3.070	.200	.600	ug/L	
	Styrene	6	.500	6.900		.500	ug/L	
	Toluene	6	2.100	5590.000	120.000	.500	ug/L	
	m-Xylene and p-Xylene	6	1.000	155.000	.500	1.100	ug/L	
	o-Xylene	6	.500	85.000	.200	.500	ug/L	
19	1-Methylnaphthalene	7	1.200	749.000	32.000	3.200	ug/L	
	2-Methylnaphthalene	7	2.000	1720.000	32.000	2.200	ug/L	
	Acenaphthene	7	1.000	137.000		1.300	ug/L	
	Acenaphthylene	7	.700	2160.000	200.000	1.400	ug/L	
	Anthracene	7	.800	770.000	17.000	1.200	ug/L	
	Benz(a)anthracene	7	.300	720.000	83.000	.500	ug/L	
	Benzo(a)pyrene	114	.070	39.600	58.000	.600	ug/L	
	Benzo(b)fluoranthene	7	.700	760.000	125.000	.700	ug/L	
	Benzo(g,h,i)perylene	7	.700	476.000	33.000	.700	ug/L	
	Benzo(k)fluoranthene	7	.700	407.000		.700	ug/L	
	Bis(2-ethylhexyl)phthalate	7	1.300	55.000	2.000	2.200	ug/L	
	Chrysene	7	.300	771.000	21.000	.300	ug/L	
	Dibenz(a,h)anthracene	7	1.300	106.000	8.000	1.300	ug/L	
	Fluoranthene	7	.300	2790.000	85.000	.400	ug/L	
	Fluorene	7	1.200	912.000		1.700	ug/L	
	Indeno(1,2,3-cd)pyrene	7	1.100	519.000	27.000	1.300	ug/L	
	Indole	7	1.000	2380.000	1560.000	1.900	ug/L	
	Naphthalene	114	1.100	264.000	850.000	1.600	ug/L	
	Perylene	7	1.100	243.000	25.000	1.500	ug/L	
	Phenanthrene	7	.300	2790.000	47.000	.400	ug/L	
	Pyrene	7	.300	2070.000	66.000	.400	ug/L	
25	Oil and Grease	117	.100	234.400	6.000	1.000	mg/L	
4a	Ammonia plus Ammonium	120	7.960	1992.000	1400.000	.250	mg/Las N	
98	Ftflow	113	571.000	2096.000			m3/day	

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.13

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1500 STREAM: COLD MILL 20 INCH CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	10	.005	.008	.001	.005 mg/L HCN
3	Hydrogen Ion (pH)	264	7.600	8.600	7.940	
6	Total Phosphorus	9	.010	35.000	.020	.100 mg/Las P
7	Specific Conductance	2	110.000	115.000	102.000	5.000 uS/cm@25C
8	Total Suspended Solids	263	.500	17.200	9.300	5.000 mg/L
9	Aluminum	2	.015	.052	.170	.030 mg/L
	Zinc	10	.005	.026	.004	.010 mg/L
14	Phenolics (4AAP)	8	2.000	10.000	.400	2.000 ug/L
19	Benzobutylphthalate	2	.600	1.100	.500	.600 ug/L
25	Oil and Grease	40	.100	1.600	.100	1.000 mg/L
26	Chlorodehydroabiatic Acid	2	1.000	7.000	5.000	5.000 ug/L
	Dehydroabiatic Acid	2	2.000	14.000	5.000	5.000 ug/L
4a	Ammonia plus Ammonium	8	.040	6.230	.050	.250 mg/Las N
4b	Nitrate+Nitrite	2	.030	.360	.300	.250 mg/Las N
5a	DOC	9	1.430	2.170	1.700	.500 mg/Las C
98	Ftflow	272	3398.000	5372.000		m3/day
IS1	Iron	10	.030	.165	.400	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.14

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1600 STREAM: COKE OVEN CONDENSER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	10	.005	.029	.008	.005 mg/L HCN
3	Hydrogen Ion (pH)	10	8.000	8.600	8.070	
7	Specific Conductance	2	80.000	120.000	116.000	5.000 $\mu$ S/cm@25C
9	Aluminum	2	.016	.056	.093	.030 mg/L
	Zinc	10	.005	.024	.002	.010 mg/L
14	Phenolics (4AAP)	9	14.000	97.000	66.000	2.000 $\mu$ g/L
19	Benzobutylphthalate	2	.600	1.200	.500	.600 $\mu$ g/L
	Chrysene	2	.300	.300	.800	.300 $\mu$ g/L
	Fluoranthene	2	.300	.700	3.200	.400 $\mu$ g/L
	Pyrene	2	.300	.500	2.400	.400 $\mu$ g/L
23	Pentachlorobenzene	2	.010	.019	.001	.010 $\mu$ g/L
26	Chlorodehydroabietic Acid	2	1.000	9.000	5.000	5.000 $\mu$ g/L
	Dehydroabietic Acid	2	1.000	14.000	5.000	5.000 $\mu$ g/L
4a	Ammonia plus Ammonium	9	.130	.770	.550	.250 mg/Las N
4b	Nitrate+Nitrite	2	.370	.400	.350	.250 mg/Las N
5a	DOC	9	1.540	2.290	1.700	.500 mg/Las C
98	Ftflow	10	7035.000	9590.000		m3/day
151	Iron	10	.005	.253	.073	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE III-2.15

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 1800 STREAM: #2 TUBE MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT
			MIN	MAX			
---	-----	---	CONCN	CONCN	CONCN	-----	-----
3	Hydrogen Ion (pH)	261	7.100	9.300	7.970		
6	Total Phosphorus	36	.010	1.770	.080	.100	mg/Les P
7	Specific Conductance	258	80.000	310.000	178.000	5.000	uS/cm@25C
8	Total Suspended Solids	260	.500	48.200	2.100	5.000	mg/L
9	Copper	10	.007	.014	.001	.010	mg/L
	Lead	117	.003	.130	.018	.030	mg/L
	Molybdenum	10	.002	.170	.012	.020	mg/L
	Zinc	117	.004	.505	.011	.010	mg/L
10	Arsenic	7	.001	.012	.005	.005	mg/L
11	Chromium (hexavalent)	1	.019	.019		.010	mg/L
14	Phenolics (4AAP)	9	2.000	8.000	1.200	2.000	ug/L
15	Sulphide	6	.020	.040	.005	.020	mg/L
16	Chloroform	9	.700	16.300	2.000	.700	ug/L
17	o-Xylene	8	.500	.590	.600	.500	ug/L
19	Benzobutylphthalate	8	.600	.900	.500	.600	ug/L
23	1,2,3,5-Tetrachlorobenzene	8	.010	.086	.001	.010	ug/L
	1,2,4,5-Tetrachlorobenzene	8	.010	.016	.001	.010	ug/L
	1,2,4-Trichlorobenzene	8	.010	.043	.002	.010	ug/L
	Hexachlorobenzene	8	.010	.014	.001	.010	ug/L
	Octachlorodibenzofuran	1	1.000	1.000		.030	ng/L
25	Oil and Grease	259	.100	14.000	2.000	1.000	mg/L
26	Abietic Acid	5	1.000	5.000	5.000	5.000	ug/L
	Chlorodehydroabietic Acid	5	1.000	9.000	5.000	5.000	ug/L
	Dehydroabietic Acid	5	1.000	36.000	5.000	5.000	ug/L
	Isopimaric Acid	5	1.000	26.000	5.000	5.000	ug/L
	Oleic Acid	5	1.000	8.000	5.000	5.000	ug/L
4a	Ammonia plus Ammonium	9	.025	.440	.100	.250	mg/Les N
	Total Kjeldahl Nitrogen	6	.170	.520	.350	.500	mg/Les N
4b	Nitrate+Nitrite	6	.025	.350	.050	.250	mg/Les N
5a	DOC	35	1.550	24.000	4.300	.500	mg/Les C
5b	TOC	4	1.680	7.200	9.000	5.000	mg/Les C
98	Ftflow	121	556.000	1425.000			m3/day
IS1	Iron	39	.030	.840	.610	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



TABLE III-2.16

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ALGOMA STEEL

CONTROL POINT: 2000 STREAM: 24 INCH COKE QUENCH EMERGENCY OVERFLOW CLASSIFICATION: EMERGENCY OVERFLOW  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	225	.005	5.470	.087	.005	mg/L HCN
3	Hydrogen Ion (pH)	221	6.900	9.400	8.130		
8	Total Suspended Solids	221	1.400	1054.400	305.000	5.000	mg/L
9	Chromium	220	.002	.670	.009	.020	mg/L
	Lead	217	.003	.110	.009	.030	mg/L
	Zinc	220	.003	3.010	.008	.010	mg/L
14	Phenolics (4AAP)	223	2.000	21400.000	1440.000	2.000	ug/L
17	Benzene	218	.250	4500.000	3.000	.500	ug/L
19	Benzo(a)pyrene	219	.600	41.800	44.000	.600	ug/L
	Naphthalene	219	.600	56.400	4.800	1.600	ug/L
25	Oil and Grease	221	.100	38.800	6.000	1.000	mg/L
4a	Ammonia plus Ammonium	223	.025	835.000	11.000	.250	mg/L as N
98	Ftflow	144	6339.000	7630.000			m3/day
IS1	Iron	220	.004	23.000	1.400	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



**APPENDIX IV**

**DOFASCO STEEL**

**FOR THE PERIOD**

**FROM NOVEMBER 1,1989 TO OCTOBER 31,1990**



TABLE IV-1.1

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0100 STREAM: EAST BOAT SLIP SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	LTA	LTA	---	---	---	----
Cyanide Total	52	100	.088	.088	.088	.057		mg/L HCN
Total Phosphorus	52	6	.065	.067	.065	.023		mg/Las P
Specific Conductance	360	100	640.283	640.283	640.283	76.170		uS/cm@25C
Total Suspended Solids	360	97	10.259	10.273	10.260	4.907		mg/L
Volatile Suspended Solids	360	4	5.264	5.347	5.277	2.107		mg/L
Aluminum	12	100	.240	.240	.240	.115		mg/L
Cadmium	12	33	.001	.002	.002	.001	QC	mg/L
Chromium	52	83	.025	.028	.026	.012		mg/L
Copper	12	58	.023	.028	.028	.045		mg/L
Molybdenum	12	58	.016	.023	.021	.009	QC	mg/L
Nickel	12	8	.003	.019	.011	.003	QC	mg/L
Thallium	12	33	.015	.030	.025	.009	QC	mg/L
Zinc	52	69	.028	.031	.031	.039		mg/L
Arsenic	12	8	.001	.005	.003	.002	QC	mg/L
Chromium (hexavalent)	4	100	.022	.022	.022	.005		mg/L
Mercury	12	8	.021	.096	.035	.033	QC	ug/L
Phenolics (4AAP)	51	86	25.098	25.373	25.324	25.662		ug/L
Sulphide	4	50	.017	.017	.017	.005		mg/L
1,2-Dichloroethane	12	8	5.667	6.400	6.033	19.514		ug/L
Bis(2-ethylhexyl)phthalate	12	8	.708	2.175	1.642	.558	QC	ug/L
Di-n-octyl Phthalate	12	8	.825	2.492	1.492	2.185	QC	ug/L
1,2,4-Trichlorobenzene	12	8	.001	.010	.007	.001	QC	ug/L
Hexachloroethane	12	33	.049	.055	.050	.081		ug/L
Oil and Grease	360	48	.866	1.386	1.320	1.054	QC	mg/L
Ammonia plus Ammonium	52	100	.846	.846	.846	.393		mg/Las N
Total Kjeldahl Nitrogen	4	100	1.600	1.600	1.600	.688		mg/Las N
Nitrate+Nitrite	4	100	2.100	2.100	2.100	.560		mg/Las N
DOC	114	99	5.518	5.518	5.518			mg/Las C
TOC	4	50	4.650	4.650	4.650	1.015		mg/Las C
Flow	346	100	76448.049	76448.049	76448.049	23322.051	QC	m3/day
Iron	52	100	.451	.451	.451	.282		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.2

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0200 STREAM: OTTAWA STREET SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STO DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	---	-----	-----	---	---	---	----
Cyanide Total	48	88	.016	.016	.016	.026		mg/L HCN
Total Phosphorus	48	15	.062	.071	.065	.025		mg/Las P
Specific Conductance	331	100	648.559	648.559	648.559	86.990		uS/cm@25C
Total Suspended Solids	331	97	25.429	25.444	25.435	55.442		mg/L
Volatile Suspended Solids	331	8	7.192	7.283	7.209	11.181		mg/L
Aluminum	11	100	.607	.607	.607	1.260		mg/L
Cadmium	11	18	.001	.002	.002	.001	QC	mg/L
Chromium	48	58	.022	.027	.025	.027		mg/L
Copper	11	55	.022	.028	.028	.047		mg/L
Molybdenum	11	64	.022	.026	.026	.012	QC	mg/L
Nickel	11	9	.005	.020	.013	.009	QC	mg/L
Thallium	11	36	.047	.066	.060	.104		mg/L
Vanadium	11	9	.005	.030	.013	.010	QC	mg/L
Zinc	48	69	.035	.038	.038	.040		mg/L
Mercury	6	17	.040	.107	.053	.073		ug/L
Phenolics (4AAP)	47	81	22.468	22.851	22.830	31.466		ug/L
Sulphide	4	50	.018	.018	.018	.007		mg/L
Benz(a)anthracene	12	8	.050	.508	.233	.115	QC	ug/L
Benzo(a)pyrene	12	8	.058	.608	.517	.058	QC	ug/L
Benzo(g,h,i)perylene	12	8	.067	.708	.433	.115	QC	ug/L
Bis(2-ethylhexyl)phthalate	12	8	.508	2.158	1.558	.360	QC	ug/L
Chrysene	12	8	.058	.333	.333	.115	QC	ug/L
Di-n-octyl Phthalate	12	8	.700	2.200	1.300	1.384	QC	ug/L
Fluoranthene	12	8	.083	.450	.267	.231	QC	ug/L
Phenanthrene	12	8	.067	.433	.342	.144	QC	ug/L
Pyrene	12	8	.117	.483	.392	.318	QC	ug/L
Hexachlorobenzene	12	8	.001	.010	.004	.002	QC	ug/L
Hexachloroethane	12	17	.030	.038	.032	.081		ug/L
Pentachlorobenzene	12	8	.001	.010	.003	.002	QC	ug/L
Oil and Grease	331	70	1.482	1.785	1.753	1.699	QC	mg/L
Oleic Acid	4	25	1.375	5.125	4.675	.550		ug/L
Ammonia plus Ammonium	48	65	.344	.365	.354	.177	QC	mg/Las N
Total Kjeldahl Nitrogen	4	100	.932	.932	.932	.581		mg/Las N
Nitrate+Nitrite	4	100	1.745	1.745	1.745	.799		mg/Las N
DOC	102	99	4.768	4.768	4.768			mg/Las C
TOC	4	50	5.625	5.625	5.625	1.721		mg/Las C
Ftflow	335	100	155575.385	155575.385	155575.385	39174.557		m3/day
Iron	48	100	3.073	3.073	3.073	2.246		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.3

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0300 STREAM: BOILER HOUSE SEWER #1 CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD	QC	UNIT
			MINIMUM	MAXIMUM				
			LTA	LTA				
Cyanide Total	52	98	.021	.021	.021	.032		mg/L HCN
Total Phosphorus	52	4	.055	.064	.057	.021		mg/Las P
Specific Conductance	4	100	676.750	676.750	676.750	65.398		uS/cm@25C
Total Suspended Solids	52	88	8.096	8.096	8.096	3.109		mg/L
Aluminum	4	100	.190	.190	.190	.096	QC	mg/L
Chromium	52	17	.007	.020	.013	.011	QC	mg/L
Copper	4	75	.015	.017	.017	.010	QC	mg/L
Molybdenum	4	50	.012	.022	.022	.005	QC	mg/L
Zinc	52	77	.045	.047	.047	.044		mg/L
Phenolics (4AAP)	51	88	24.706	24.941	24.922	33.591		ug/L
Sulphide	4	50	.035	.035	.035	.038		mg/L
Di-n-octyl Phthalate	4	25	.725	2.225	1.325	1.050	QC	ug/L
Oil and Grease	52	35	.669	1.323	1.258	.965	QC	mg/L
Ammonia plus Ammonium	52	96	.858	.858	.858	.448		mg/Las N
Total Kjeldahl Nitrogen	4	100	1.075	1.075	1.075	.655		mg/Las N
Nitrate+Nitrite	4	100	1.847	1.847	1.847	.782		mg/Las N
DOC	9	100	5.011	5.011	5.011			mg/Las C
TOC	4	25	4.975	4.975	4.975	1.609		mg/Las C
Ftflow	44	100	100022.432	100022.432	100022.432	86755.945		m3/day
Iron	52	100	.444	.444	.444	.368		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.4

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0400 STREAM: WEST BAY FRONT SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900430

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STO		UNIT
			MINIMUM	MAXIMUM		DEV	QC	
-----	---	-----	-----	-----	---	---	---	-----
Cyanide Total	26	100	.232	.232	.232	.241		mg/L HCN
Total Phosphorus	26	24	.093	.093	.093	.053		mg/Las P
Specific Conductance	174	100	729.925	729.925	729.925	71.509		uS/cm@25C
Total Suspended Solids	174	99	24.509	24.509	24.509	17.443		mg/L
Volatile Suspended Solids	174	11	5.993	6.050	5.998	2.113		mg/L
Aluminum	6	100	.413	.413	.413	.188		mg/L
Cadmium	6	25	.002	.003	.003	.002	QC	mg/L
Chromium	26	29	.012	.020	.015	.008	QC	mg/L
Copper	6	75	.047	.048	.048	.075		mg/L
Lead	6	17	.010	.035	.035	.012	QC	mg/L
Molybdenum	6	67	.022	.022	.022	.010	QC	mg/L
Nickel	6	17	.000	.020	.009	.002	QC	mg/L
Thallium	6	42	.033	.038	.037	.010	QC	mg/L
Zinc	26	90	.243	.244	.244	.169		mg/L
Antimony	6	10	.001	.005	.003	.001	QC	mg/L
Selenium	6	90	.006	.006	.006	.001		mg/L
Mercury	6	20	.125	.192	.138	.276		ug/L
Phenolics (4AAP)	26	100	29.769	29.769	29.769	35.098		ug/L
Sulphide	2	100	.102	.102	.102	.096		mg/L
Toluene	6	10	.267	.683	.600	.490	QC	ug/L
Benz(a)anthracene	6	30	.133	.467	.267	.121	QC	ug/L
Benzo(a)pyrene	6	10	.000	.600	.500		QC	ug/L
Benzo(b)fluoranthene	6	10	.083	.667	.417	.041	QC	ug/L
Benzo(k)fluoranthene	6	20	.133	.717	.467	.163	QC	ug/L
Bis(2-ethylhexyl)phthalate	6	10	.517	2.350	1.683	.694	QC	ug/L
Chrysene	6	60	.167	.367	.367	.121	QC	ug/L
Fluoranthene	6	60	.500	.500	.500	.228		ug/L
Phenanthrene	6	10	.000	.400	.300		QC	ug/L
Pyrene	6	80	.450	.517	.500	.179	QC	ug/L
Hexachlorobenzene	6	10	.002	.010	.004	.003	QC	ug/L
Pentachlorobenzene	6	10	.002	.010	.003	.003	QC	ug/L
Oil and Grease	174	39	.716	1.285	1.103	.798	QC	mg/L
Ammonia plus Ammonium	26	100	1.733	1.733	1.733	.443		mg/Las N
Total Kjeldahl Nitrogen	2	100	1.550	1.550	1.550	1.061		mg/Las N
Nitrate+Nitrite	2	100	2.100	2.100	2.100			mg/Las N
DOC	35	100	5.246	5.246	5.246			mg/Las C
TOC	2	50	4.550	4.550	4.550	.636		mg/Las C
Fflow	167	100	376516.275	376516.275	376516.275	34328.871		m3/day
Iron	26	98	3.920	3.920	3.920	1.998		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION



TABLE IV-1.5

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0400 STREAM: WEST BAY FRONT SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 900501 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	----
Cyanide Total	24	100	.301	.301	.301	.135		mg/L HCN
Total Phosphorus	24	24	.065	.082	.070	.084		mg/Las P
Specific Conductance	177	100	681.944	681.944	681.944	78.761		uS/cm@25C
Total Suspended Solids	177	99	34.540	34.540	34.540	39.160		mg/L
Volatile Suspended Solids	177	11	7.646	7.702	7.657	3.810		mg/L
Aluminum	6	100	.212	.212	.212	.110		mg/L
Cadmium	6	25	.000	.002	.002		QC	mg/L
Chromium	24	29	.012	.028	.020	.047	QC	mg/L
Copper	6	75	.006	.011	.011	.005		mg/L
Lead	6	17	.009	.032	.030	.006	QC	mg/L
Molybdenum	6	67	.019	.026	.026	.010	QC	mg/L
Nickel	6	17	.017	.030	.023	.028	QC	mg/L
Thallium	6	42	.000	.030	.019	.002	QC	mg/L
Zinc	24	90	.053	.054	.054	.041		mg/L
Antimony	4	10	.003	.004	.004	.001	QC	mg/L
Selenium	4	90	.005	.005	.005	.002		mg/L
Mercury	4	20	.062	.087	.067	.041		ug/L
Phenolics (4AAP)	23	100	73.565	73.565	73.565	58.109		ug/L
Sulphide	2	100	.040	.040	.040	.014		mg/L
Toluene	4	10	.000	.500	.400		QC	ug/L
Benz(a)anthracene	4	30	.325	.575	.425	.287	QC	ug/L
Benzo(a)pyrene	4	10	.150	.600	.525	.050	QC	ug/L
Benzo(b)fluoranthene	4	10	.325	.675	.525	.189	QC	ug/L
Benzo(k)fluoranthene	4	20	.300	.825	.600	.400	QC	ug/L
Bis(2-ethylhexyl)phthalate	4	10	.000	2.200	1.400		QC	ug/L
Chrysene	4	60	.500	.500	.500	.141	QC	ug/L
Fluoranthene	4	60	.525	.525	.525	.457		ug/L
Phenanthrene	4	10	.100	.400	.325	.050	QC	ug/L
Pyrene	4	80	.475	.575	.550	.311	QC	ug/L
Hexachlorobenzene	4	10	.000	.010	.003		QC	ug/L
Pentachlorobenzene	4	10	.000	.010	.002		QC	ug/L
Oil and Grease	177	39	.514	1.163	1.163	.367	QC	mg/L
Ammonia plus Ammonium	24	100	1.716	1.716	1.716	.632		mg/Las N
Total Kjeldahl Nitrogen	2	100	2.600	2.600	2.600	.283		mg/Las N
Nitrate+Nitrite	2	100	2.100	2.100	2.100	.990		mg/Las N
DOC	74	100	4.822	4.822	4.822	1.169		mg/Las C
TOC	2	50	5.250	5.250	5.250	1.202		mg/Las C
Ftflow	170	100	325443.312	325443.312	325443.312	30453.122		m3/day
Iron	24	98	1.524	1.524	1.524	1.521		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMOL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.6

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0500 STREAM: BAY WATER INTAKE CLASSIFICATION: INTAKE WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	151	93	.018	.018	.018	.010		mg/L HCN
Total Phosphorus	51	2	.045	.057	.049	.020		mg/Las P
Specific Conductance	355	100	634.259	634.259	634.259	72.674		uS/cm@25C
Total Suspended Solids	355	46	4.937	5.078	4.981	2.252		mg/L
Aluminum	12	100	.212	.212	.212	.108	QC	mg/L
Boron	2	100	.063	.063	.063	.010		mg/L
Cadmium	12	17	.000	.002	.002	.001	QC	mg/L
Chromium	152	21	.011	.024	.017	.042	QC	mg/L
Copper	12	67	.017	.020	.020	.026		mg/L
Lead	151	9	.005	.033	.032	.016	QC	mg/L
Molybdenum	12	67	.022	.028	.027	.014	QC	mg/L
Nickel	12	8	.006	.022	.014	.014	QC	mg/L
Thallium	12	42	.016	.033	.027	.010	QC	mg/L
Zinc	152	71	.032	.035	.035	.060		mg/L
Selenium	12	8	.001	.005	.003	.001	QC	mg/L
Phenolics (4AAP)	148	76	20.777	21.264	21.228	28.091		ug/L
Sulphide	4	25	.013	.018	.016	.004		mg/L
Bromodichloromethane	12	100	.000	.400	.400			ug/L
Benzene	51	2	.159	.649	.355	1.106	QC	ug/L
Benzo(a)pyrene	51	6	6.361	6.925	6.831	31.828		ug/L
Bis(2-ethylhexyl)phthalate	12	17	.667	2.500	1.833	1.013	QC	ug/L
Di-n-octyl Phthalate	12	25	1.750	3.083	2.283	3.035		ug/L
Naphthalene	51	2	.116	1.684	.410	.784	QC	ug/L
1,2,3,4-Tetrachlorobenzene	12	58	.031	.035	.035	.029		ug/L
1,2,3-Trichlorobenzene	12	58	.029	.033	.033	.030		ug/L
1,2,4,5-Tetrachlorobenzene	12	17	.002	.010	.006	.002	QC	ug/L
1,2,4-Trichlorobenzene	12	58	.073	.077	.076	.074		ug/L
2,4,5-Trichlorotoluene	12	17	.003	.011	.006	.007		ug/L
Hexachloroethane	12	8	.010	.019	.012	.034		ug/L
Octachlorostyrene	12	8	.008	.017	.011	.028		ug/L
Pentachlorobenzene	12	8	.003	.008	.004	.003	QC	ug/L
Oil and Grease	354	44	.856	1.431	1.360	1.308	QC	mg/L
Ammonia plus Ammonium	151	97	.835	.841	.839	.398		mg/Las N
Total Kjeldahl Nitrogen	4	100	1.250	1.250	1.250	.208		mg/Las N
Nitrate+Nitrite	4	100	1.875	1.875	1.875	.479		mg/Las N
DOC	113	99	4.593	4.593	4.593			mg/Las C
TOC	4	25	4.950	4.950	4.950	1.185		mg/Las C
Flow	365	100	596934.408	596934.408	596934.408	102127.430		m3/day
Iron	50	100	.472	.472	.472	.890		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.7

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0700 STREAM: COKE PLANT BIOLOGICAL PLANT DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
---	---	---	---	---	---	---	---	---
Cyanide Total	157	100	40.652	40.652	40.652	26.197		mg/L HCN
Total Phosphorus	51	96	3.466	3.468	3.467	6.776		mg/Las P
Total Suspended Solids	157	100	119.713	119.713	119.713	113.384		mg/L
Volatile Suspended Solids	157	99	94.659	94.659	94.659	91.758		mg/L
Phenolics (4AAP)	151	79	2476.404	2476.775	2476.775	8236.073		ug/L
Benzene	157	43	34.922	35.276	35.105	65.824		ug/L
Styrene	12	42	1.000	1.250	1.200	1.478		ug/L
Toluene	12	25	2.875	3.250	3.175	5.159		ug/L
m-Xylene and p-Xylene	12	58	3.200	3.475	3.325	3.746		ug/L
o-Xylene	12	58	.842	1.050	1.008	1.026		ug/L
1-Chloronaphthalene	12	42	3.000	4.458	3.467	3.468		ug/L
1-Methylnaphthalene	12	42	8.250	10.117	9.533	9.536		ug/L
2,4-Dinitrotoluene	12	42	1.875	2.342	2.167	2.167		ug/L
2,6-Dinitrotoluene	12	42	2.250	2.658	2.600	2.601		ug/L
2-Chloronaphthalene	12	42	3.375	4.425	3.900	3.901		ug/L
2-Methylnaphthalene	12	42	5.625	6.908	6.500	6.502		ug/L
4-Bromophenyl Phenyl Ether	12	42	1.125	1.300	1.300	1.300		ug/L
4-Chlorophenyl Phenyl Ether	12	42	3.375	3.900	3.900	3.901		ug/L
Acenaphthene	12	42	2.625	3.383	3.033	3.034		ug/L
Acenaphthylene	12	75	19.008	19.358	19.108	18.595		ug/L
Anthracene	12	50	3.983	4.483	4.067	4.541		ug/L
Benz(a)anthracene	12	100	51.250	51.250	51.250	39.391		ug/L
Benzo(a)pyrene	157	92	60.629	60.675	60.667	131.391		ug/L
Benzo(b)fluoranthene	12	92	58.000	58.058	58.033	41.325		ug/L
Benzo(g,h,i)perylene	12	75	17.192	17.367	17.292	18.396		ug/L
Benzo(k)fluoranthene	12	67	18.000	18.233	18.133	29.003		ug/L
Benzobutylphthalate	12	42	2.250	2.600	2.600	2.601		ug/L
Bis(2-chloroethoxyl)methane	12	42	4.875	6.917	5.633	5.635		ug/L
Bis(2-chloroethyl)ether	12	42	6.750	9.317	7.800	7.802		ug/L
Bis(2-chloroisopropyl)ether	12	42	5.625	6.908	6.500	6.502		ug/L
Bis(2-ethylhexyl)phthalate	12	58	6.867	7.783	7.450	5.843	QC	ug/L
Camphene	12	42	3.750	5.792	4.333	4.334		ug/L
Chrysene	12	100	48.750	48.750	48.750	32.424		ug/L
Di-n-butyl Phthalate	12	42	4.125	6.342	4.767	4.768		ug/L
Di-n-octyl Phthalate	12	42	3.000	4.167	3.467	3.468		ug/L
Dibenz(a,h)anthracene	12	50	5.283	5.933	5.483	7.010		ug/L
Diphenylamine	12	33	7.125	15.292	8.233	8.236		ug/L
Fluoranthene	12	100	72.417	72.417	72.417	74.882		ug/L
Fluorene	12	42	3.842	4.692	3.992	5.197		ug/L
Indeno(1,2,3-cd)pyrene	12	75	19.233	19.558	19.383	18.315		ug/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.8

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0700 STREAM: COKE PLANT BIOLOGICAL PLANT DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STO DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	----	LTA	LTA	---	---	---	----
Indole	12	42	134.700	135.808	135.400	312.003		ug/L
N-Nitrosodi-n-propylamine	12	42	7.875	9.683	9.100	9.102		ug/L
N-Nitrosodiphenylamine	12	33	7.125	15.292	8.233	8.236		ug/L
Naphthalene	157	52	9.888	10.571	10.016	49.729		ug/L
Perylene	12	75	11.508	11.883	11.583	10.546		ug/L
Phenanthrene	12	58	6.350	6.517	6.475	7.791		ug/L
Pyrene	12	100	67.417	67.417	67.417	53.705		ug/L
Oil and Grease	154	56	1.460	1.895	1.848	3.495		mg/L
Ammonia plus Ammonium	156	100	78.981	78.981	78.981	24.068		mg/L as N
Effluent	360	100	2817.564	2817.564	2817.564	309.200		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the West Bay Front Sewer (control point 0400).

TABLE IV-1.9

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0800 STREAM: BLAST FURNACE RECYCLE BLOWDOWN CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900430

PARAMETER -----	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT -----
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	78	100	.193	.193	.193	.435		mg/L HCN
Total Suspended Solids	78	98	30.192	30.192	30.192	19.015		mg/L
Volatile Suspended Solids	78	21	6.858	6.858	6.858	3.372		mg/L
Zinc	78	100	.579	.579	.579	.412		mg/L
Phenolics (4AAP)	78	98	44.192	44.244	44.224	56.944		ug/L
Ammonia plus Ammonium	78	100	4.915	4.915	4.915	9.765		mg/Las N
Ftflow	178	100	74966.157	74966.157	74966.157	24481.665		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the West Bay Front Sewer (control point 0400).

TABLE IV-1.10

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0800 STREAM: BLAST FURNACE RECYCLE BLOWDOWN CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 900501 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	49	100	.534	.534	.534	1.263		mg/L HCN
Total Suspended Solids	49	98	54.329	54.329	54.329	87.698		mg/L
Volatile Suspended Solids	49	21	11.118	11.322	11.159	13.252		mg/L
Zinc	49	100	.390	.390	.390	.447		mg/L
Phenolics (4AAP)	48	98	328.396	328.396	328.396	418.164		ug/L
Ammonia plus Ammonium	49	100	38.258	38.258	38.258	13.918		mg/L as N
Effluent flow	184	100	956.402	956.402	956.402	1459.963		m <sup>3</sup> /day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the West Bay Front Sewer (control point 0400).

TABLE IV-1.11

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0900 STREAM: STEELMAKING CLARIFIER DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Total Suspended Solids	157	100	53.790	53.790	53.790	51.075		mg/L
Volatile Suspended Solids	157	14	5.997	6.443	6.074	4.046		mg/L
Lead	156	35	.029	.048	.047	.062		mg/L
Zinc	156	94	.195	.196	.196	.317		mg/L
Oil and Grease	157	65	1.499	1.849	1.812	2.226		mg/L
Ftflow	354	100	89587.116	89587.116	89587.116	7719.044		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC  
I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the West Bay Front Sewer (control point 0400).

TABLE IV-1.12

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1000 STREAM: COLD MILL TREATMENT PLANT SEWER CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	LTA	LTA	---	---	---	----
Total Suspended Solids	157	100	486.605	486.605	486.605	412.942		mg/L
Volatile Suspended Solids	157	100	264.363	264.363	264.363	228.048		mg/L
Chromium	157	99	.796	.796	.796	.754		mg/L
Lead	157	71	.079	.088	.088	.089		mg/L
Zinc	157	90	.150	.151	.151	.240		mg/L
Oil and Grease	148	100	67.708	67.708	67.708	44.840		mg/L
DOC	116	100	55.483	55.483	55.483			mg/L as C
Ftflow	352	100	4874.551	4874.551	4874.551	921.864		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the Hamilton-Wentworth Municipal STP.



TABLE IV-1.13

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1100 STREAM: #1 HOT MILL FILTRATION PLANT DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
-----	---	-----	-----	-----	---	---	---	----
Total Suspended Solids	157	99	31.408	31.408	31.408	38.598		mg/L
Volatile Suspended Solids	157	22	8.315	8.379	8.322	6.811		mg/L
Lead	157	15	.007	.032	.031	.010	QC	mg/L
Zinc	157	48	.025	.030	.030	.050		mg/L
Oil and Grease	157	96	5.103	5.147	5.147	3.754		mg/L
Ftflow	365	100	71118.181	71118.181	71118.181	20741.944		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the Ottawa Street Sewer (control point 0200).

TABLE IV-1.14

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1200 STREAM: BOILER HOUSE SEWER #2 CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
			LTA	LTA				
Cyanide Total	12	100	.036	.036	.036	.028		mg/L HCN
Total Phosphorus	12	8	.050	.058	.052	.022		mg/Las P
Specific Conductance	4	100	623.000	623.000	623.000	88.049		us/cm <sup>2</sup> 25C
Total Suspended Solids	12	83	7.167	7.167	7.167	3.172		mg/L
Aluminum	4	100	.195	.195	.195	.064	QC	mg/L
Chromium	12	25	.021	.029	.025	.043		mg/L
Copper	4	75	.015	.017	.017	.010	QC	mg/L
Lead	12	25	.010	.032	.032	.006	QC	mg/L
Molybdenum	4	50	.015	.025	.025	.006	QC	mg/L
Zinc	12	58	.026	.030	.030	.037		mg/L
Antimony	4	25	.002	.005	.004	.002	QC	mg/L
Phenolics (4AAP)	11	82	19.455	19.818	19.818	28.103		ug/L
Sulphide	3	67	.037	.037	.037	.036		mg/L
1,2,3-Trichlorobenzene	4	25	.005	.012	.011	.006	QC	ug/L
1,2,4,5-Tetrachlorobenzene	4	25	.003	.010	.007	.003	QC	ug/L
1,2,4-Trichlorobenzene	4	25	.014	.022	.019	.025		ug/L
Hexachloroethane	4	25	.010	.017	.011	.019		ug/L
Oil and Grease	12	50	.700	1.200	1.117	.447	QC	mg/L
Ammonia plus Ammonium	12	100	1.182	1.182	1.182	.567		mg/Las N
Total Kjeldahl Nitrogen	4	100	1.575	1.575	1.575	.377		mg/Las N
Nitrate+Nitrite	4	100	1.815	1.815	1.815	.689		mg/Las N
DOC	9	100	4.533	4.533	4.533			mg/Las C
TOC	4	50	4.850	4.850	4.850	.988		mg/Las C
Ftflow	12	100	156259.583	156259.583	156259.583	1133.152		m3/day
Iron	12	100	.756	.756	.756	.492		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.15

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1300 STREAM: SOUTH EAST COAL FIELDS STORM SEWER CLASSIFICATION: STORAGE SITE  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Cyanide Total	12	92	.067	.067	.067	.059	mg/L HCN
Total Suspended Solids	12	100	411.167	411.167	411.167	599.339	mg/L
Volatile Suspended Solids	12	83	295.458	295.458	295.458	489.523	mg/L
Chromium	12	25	.022	.030	.026	.036	mg/L
Lead	12	17	.020	.045	.043	.050	mg/L
Zinc	12	67	.184	.187	.187	.394	mg/L
Phenolics (4AAP)	12	100	436.667	436.667	436.667	312.420	ug/L
Benzene	13	69	2.500	2.654	2.562	2.272	ug/L
Benzo(a)pyrene	13	85	22.854	22.946	22.931	56.736	ug/L
Naphthalene	13	92	248.000	248.123	248.023	404.410	ug/L
Oil and Grease	12	67	2.383	2.717	2.683	2.446	mg/L
Ammonia plus Ammonium	12	92	6.663	6.663	6.663	4.861	mg/L as N
Iron	12	100	8.292	8.292	8.292	12.913	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-1.16

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1400 STREAM: KENILWORTH PLANT STORM SEWER CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
			LTA	LTA				
-----	---	-----	-----	---	---	---	---	---
Cyanide Total	12	83	.034	.034	.034	.069		mg/L HCN
Total Suspended Solids	12	100	188.917	188.917	188.917	257.772		mg/L
Volatile Suspended Solids	12	75	36.167	36.167	36.167	59.258		mg/L
Chromium	12	58	.047	.049	.048	.068		mg/L
Lead	12	58	.057	.069	.069	.056		mg/L
Zinc	12	100	1.515	1.515	1.515	1.825		mg/L
Phenolics (4AAP)	12	100	40.500	40.500	40.500	45.067		ug/L
Benzene	13	23	.323	.669	.462	.501		ug/L
Oil and Grease	12	83	2.358	2.525	2.525	1.610		mg/L
Ammonia plus Ammonium	12	83	.586	.607	.603	.450		mg/Las N
Iron	12	100	45.370	45.370	45.370	133.956		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IV-2.1

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0100 STREAM: EAST BOAT SLIP SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT
			MIN	MAX			
---	---	---	CONCN	CONCN	CONCN	---	---
2	Cyanide Total	52	.027	.300	.001	.005	mg/L HCN
6	Total Phosphorus	52	.030	.140	.080	.100	mg/Las P
7	Specific Conductance	360	504.000	976.000	688.000	5.000	uS/cm@25C
8	Total Suspended Solids	360	.500	43.000	8.200	5.000	mg/L
	Volatile Suspended Solids	360	1.000	13.000	4.200	10.000	mg/L
9	Aluminum	12	.080	.470	.180	.030	mg/L
	Cadmium	12	.001	.005		.002	mg/L
	Chromium	52	.004	.060	.032	.020	mg/L
	Copper	12	.010	.170	.035	.010	mg/L
	Molybdenum	12	.010	.040	.002	.020	mg/L
	Nickel	12	.010	.020	.034	.020	mg/L
	Thallium	12	.015	.050	.030	.030	mg/L
	Zinc	52	.010	.250	.043	.010	mg/L
10	Arsenic	12	.003	.009	.001	.005	mg/L
11	Chromium (hexavalent)	4	.020	.030		.010	mg/L
12	Mercury	12	.019	.120	.040	.100	ug/L
14	Phenolics (4AAP)	51	.500	100.000	3.200	2.000	ug/L
15	Sulphide	4	.010	.022	.008	.020	mg/L
16	1,2-Dichloroethane	12	.400	68.000	.500	.800	ug/L
19	Bis(2-ethylhexyl)phthalate	12	1.400	3.300	1.000	2.200	ug/L
	Di-n-octyl Phthalate	12	.800	8.400	.200	2.000	ug/L
23	1,2,4-Trichlorobenzene	12	.006	.010	.002	.010	ug/L
	Hexachloroethane	12	.002	.220	.001	.010	ug/L
25	Oil and Grease	360	.200	9.200	2.000	1.000	mg/L
4a	Ammonia plus Ammonium	52	.330	2.200	.400	.250	mg/Las N
	Total Kjeldahl Nitrogen	4	1.100	2.600	1.150	.500	mg/Las N
4b	Nitrate+Nitrite	4	1.600	2.800	3.250	.250	mg/Las N
5a	DOC	114	.400	35.000	3.700	.500	mg/Las C
5b	TOC	4	3.600	5.900	9.000	5.000	mg/Las C
98	Ftflow	346	50733.000	142013.000		m3/day	
1S1	Iron	52	.080	1.200	.430	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.2

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0200 STREAM: OTTAWA STREET SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	48	.002	.180	.003	.005 mg/L HCM
6	Total Phosphorus	48	.030	.130	.560	.100 mg/Las P
7	Specific Conductance	331	502.000	994.000	683.000	5.000 uS/cm@25C
8	Total Suspended Solids	331	1.600	700.000	11.700	5.000 mg/L
	Volatile Suspended Solids	331	1.500	140.000	4.100	10.000 mg/L
9	Aluminum	11	.100	4.400	.082	.030 mg/L
	Cadmium	11	.001	.004		.002 mg/L
	Chromium	48	.010	.160	.013	.020 mg/L
	Copper	11	.007	.170	.009	.010 mg/L
	Molybdenum	11	.010	.050	.002	.020 mg/L
	Nickel	11	.009	.040	.013	.020 mg/L
	Thallium	11	.015	.370	.030	.030 mg/L
	Vanadium	11	.003	.040	.004	.030 mg/L
	Zinc	48	.010	.200	.029	.010 mg/L
12	Mercury	6	.019	.200	.020	.100 ug/L
14	Phenolics (4AAP)	47	1.000	150.000		2.000 ug/L
15	Sulphide	4	.010	.026	.009	.020 mg/L
19	Benz(a)anthracene	12	.200	.600	.200	.500 ug/L
	Benzo(a)pyrene	12	.500	.700	.200	.600 ug/L
	Benzo(g,h,i)perylene	12	.400	.800	.200	.700 ug/L
	Bis(2-ethylhexyl)phthalate	12	1.400	2.600	1.000	2.200 ug/L
	Chrysene	12	.300	.700	.200	.300 ug/L
	Di-n-octyl Phthalate	12	.800	5.600	.200	2.000 ug/L
	Fluoranthene	12	.200	1.000	.200	.400 ug/L
	Phenanthrene	12	.300	.800	.200	.400 ug/L
	Pyrene	12	.300	1.400	.200	.400 ug/L
23	Hexachlorobenzene	12	.003	.010	.001	.010 ug/L
	Hexachloroethane	12	.002	.280	.001	.010 ug/L
	Pentachlorobenzene	12	.002	.010	.001	.010 ug/L
25	Oil and Grease	331	.200	22.000	1.000	1.000 mg/L
26	Oleic Acid	4	4.400	5.500		5.000 ug/L
4a	Ammonia plus Ammonium	48	.025	.700	.100	.250 mg/Las N
	Total Kjeldahl Nitrogen	4	.600	1.800	.650	.500 mg/Las N
4b	Nitrate+Nitrite	4	.580	2.400	2.800	.250 mg/Las N
5a	DOC	102	.400	14.000	3.600	.500 mg/Las C
5b	TOC	4	4.100	7.800	6.000	5.000 mg/Las C
98	Ftflow	335	124.000	228856.000		m3/day
IS1	Iron	48	.100	11.000	2.000	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.3

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0300 STREAM: BOILER HOUSE SEWER #1 CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	52	.002	.230	.007	.005	mg/L HCN
6	Total Phosphorus	52	.030	.160	.080	.100	mg/Las P
7	Specific Conductance	4	622.000	752.000	673.000	5.000	uS/cm@25C
8	Total Suspended Solids	52	2.500	16.000	6.000	5.000	mg/L
9	Aluminum	4	.080	.280	.090	.030	mg/L
	Chromium	52	.004	.080	.002	.020	mg/L
	Copper	4	.010	.030	.018	.010	mg/L
	Molybdenum	4	.020	.030	.002	.020	mg/L
	Zinc	52	.005	.230	.042	.010	mg/L
14	Phenolics (4AAP)	51	1.000	210.000	13.000	2.000	ug/L
15	Sulphide	4	.010	.090	.178	.020	mg/L
19	Di-n-octyl Phthalate	4	.800	2.900	.200	2.000	ug/L
25	Oil and Grease	52	.400	6.200	1.000	1.000	mg/L
4a	Ammonia plus Ammonium	52	.160	2.200	.350	.250	mg/Las N
	Total Kjeldahl Nitrogen	4	.500	1.900	1.100	.500	mg/Las N
4b	Nitrate+Nitrite	4	.690	2.400	2.450	.250	mg/Las N
5a	DOC	9	2.900	8.300	3.400	.500	mg/Las C
5b	TOC	4	3.600	7.300	5.000	5.000	mg/Las C
98	Ftflow	44	16891.000	290000.000			m3/day
1S1	Iron	52	.020	2.500	.720	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.4

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0400 STREAM: WEST BAY FRONT SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900430

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	26	.020	1.240	.050	.005	mg/L HCN
6	Total Phosphorus	26	.035	.220	.240	.100	mg/Las P
7	Specific Conductance	174	553.000	921.000	759.000	5.000	uS/cm@25C
8	Total Suspended Solids	174	3.000	220.000	24.300	5.000	mg/L
	Volatile Suspended Solids	174	1.000	21.000	10.300	10.000	mg/L
9	Aluminum	6	.200	.730	.130	.030	mg/L
	Cadmium	6	.002	.006		.002	mg/L
	Chromium	26	.004	.030	.002	.020	mg/L
	Copper	6	.010	.200	.015	.010	mg/L
	Lead	6	.030	.060	.031	.030	mg/L
	Molybdenum	6	.010	.040	.007	.020	mg/L
	Nickel	6	.005	.010	.011	.020	mg/L
	Thallium	6	.020	.050	.030	.030	mg/L
	Zinc	26	.010	.740	.050	.010	mg/L
10	Antimony	6	.003	.004	.004	.005	mg/L
	Selenium	6	.005	.007	.007	.005	mg/L
12	Mercury	6	.019	.700	.050	.100	ug/L
14	Phenolics (4AAP)	26	2.000	180.000	12.400	2.000	ug/L
15	Sulphide	2	.034	.170	.539	.020	mg/L
17	Toluene	6	.400	1.600	.400	.500	ug/L
19	Benz(a)anthracene	6	.200	.500		.500	ug/L
	Benzo(a)pyrene	6	.500	.500	.800	.600	ug/L
	Benzo(b)fluoranthene	6	.400	.500	2.200	.700	ug/L
	Benzo(k)fluoranthene	6	.400	.800		.700	ug/L
	Bis(2-ethylhexyl)phthalate	6	1.400	3.100	1.000	2.200	ug/L
	Chrysene	6	.300	.600	.400	.300	ug/L
	Fluoranthene	6	.300	.900	1.800	.400	ug/L
	Phenanthrene	6	.300	.300	.600	.400	ug/L
	Pyrene	6	.300	.800	1.200	.400	ug/L
23	Hexachlorobenzene	6	.003	.010	.001	.010	ug/L
	Pentachlorobenzene	6	.002	.010	.001	.010	ug/L
25	Oil and Grease	174	.200	4.800	3.000	1.000	mg/L
4a	Ammonia plus Ammonium	26	.350	2.300	1.350	.250	mg/Las N
	Total Kjeldahl Nitrogen	2	.800	2.300	2.300	.500	mg/Las N
4b	Nitrate+Nitrite	2	2.100	2.100	2.600	.250	mg/Las N
5a	DOC	35	.500	10.000	3.700	.500	mg/Las C
5b	TOC	2	4.100	5.000	6.000	5.000	mg/Las C
98	Ftflow	167	290625.000	472673.000			m3/day
151	Iron	26	.390	9.000	.870	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



TABLE IV-2.5

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0400 STREAM: WEST BAY FRONT SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 900501 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	24	.065	.580	.050	.005	mg/L HCN
6	Total Phosphorus	24	.020	.440	.240	.100	mg/Las P
7	Specific Conductance	177	510.000	867.000	759.000	5.000	uS/cm@25C
8	Total Suspended Solids	177	3.000	260.000	24.300	5.000	mg/L
	Volatile Suspended Solids	177	2.000	25.000	10.300	10.000	mg/L
9	Aluminum	6	.100	.410	.130	.030	mg/L
	Cadmium	6	.001	.002		.002	mg/L
	Chromium	24	.010	.240	.002	.020	mg/L
	Copper	6	.006	.020	.015	.010	mg/L
	Lead	6	.020	.040	.031	.030	mg/L
	Molybdenum	6	.013	.040	.007	.020	mg/L
	Nickel	6	.009	.080	.011	.020	mg/L
	Thallium	6	.015	.020	.030	.030	mg/L
	Zinc	24	.010	.180	.050	.010	mg/L
10	Antimony	4	.003	.005	.004	.005	mg/L
	Selenium	4	.003	.007	.007	.005	mg/L
12	Mercury	4	.019	.110	.050	.100	ug/L
14	Phenolics (4AAP)	23	12.000	200.000	12.400	2.000	ug/L
15	Sulphide	2	.030	.050	.539	.020	mg/L
17	Toluene	4	.400	.400	.400	.500	ug/L
19	Benz(a)anthracene	4	.200	.800		.500	ug/L
	Benzo(a)pyrene	4	.500	.600	.800	.600	ug/L
	Benzo(b)fluoranthene	4	.400	.800	2.200	.700	ug/L
	Benzo(k)fluoranthene	4	.400	1.200		.700	ug/L
	Bis(2-ethylhexyl)phthalate	4	1.400	1.400	1.000	2.200	ug/L
	Chrysene	4	.400	.700	.400	.300	ug/L
	Fluoranthene	4	.200	1.200	1.800	.400	ug/L
	Phenanthrene	4	.300	.400	.600	.400	ug/L
	Pyrene	4	.300	1.000	1.200	.400	ug/L
23	Hexachlorobenzene	4	.003	.003	.001	.010	ug/L
	Pentachlorobenzene	4	.002	.002	.001	.010	ug/L
25	Oil and Grease	177	1.000	3.800	3.000	1.000	mg/L
4a	Ammonia plus Ammonium	24	.740	2.800	1.350	.250	mg/Las N
	Total Kjeldahl Nitrogen	2	2.400	2.800	2.300	.500	mg/Las N
4b	Nitrate+Nitrite	2	1.400	2.800	2.600	.250	mg/Las N
5a	DOC	74	2.300	9.800	3.700	.500	mg/Las C
5b	TOC	2	4.400	6.100	6.000	5.000	mg/Las C
98	Ftflow	170	144133.000	432064.000			m3/day
IS1	Iron	24	.430	8.100	.870	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.6

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0700 STREAM: COKE PLANT BIOLOGICAL PLANT DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT
			MIN	MAX			
---	-----	---	CONCN	CONCN	CONCN	---	---
2	Cyanide Total	157	.380	130.000	15.000	.005	mg/L HCN
6	Total Phosphorus	51	.030	38.000	.160	.100	mg/Las P
8	Total Suspended Solids	157	10.000	540.000	28.300	5.000	mg/L
	Volatile Suspended Solids	157	4.500	440.000	24.700	10.000	mg/L
14	Phenolics (4AAP)	151	2.000	93000.000	240.000	2.000	ug/L
17	Benzene	157	.200	380.000	.200	.500	ug/L
	Styrene	12	.400	4.500		.500	ug/L
	Toluene	12	.400	14.000	1.000	.500	ug/L
	m-Xylene and p-Xylene	12	.500	14.000	1.000	1.100	ug/L
	o-Xylene	12	.400	4.000	.400	.500	ug/L
19	1-Chloronaphthalene	12	.800	8.000	.250	2.500	ug/L
	1-Methylnaphthalene	12	2.200	22.000	.500	3.200	ug/L
	2,4-Dinitrotoluene	12	.500	5.000	.500	.800	ug/L
	2,6-Dinitrotoluene	12	.600	6.000	.500	.700	ug/L
	2-Chloronaphthalene	12	.900	9.000	.200	1.800	ug/L
	2-Methylnaphthalene	12	1.500	15.000	.220	2.200	ug/L
	4-Bromophenyl Phenyl Ether	12	.300	3.000	.200	.300	ug/L
	4-Chlorophenyl Phenyl Ether	12	.900	9.000	.200	.900	ug/L
	Acenaphthene	12	.700	7.000	.200	1.300	ug/L
	Acenaphthylene	12	.400	60.000	18.000	1.400	ug/L
	Anthracene	12	.200	11.000		1.200	ug/L
	Benz(a)anthracene	12	16.000	150.000		.500	ug/L
	Benzo(a)pyrene	157	.500	1500.000	32.000	.600	ug/L
	Benzo(b)fluoranthene	12	.400	140.000	80.000	.700	ug/L
	Benzo(g,h,i)perylene	12	.400	64.000	12.000	.700	ug/L
	Benzo(k)fluoranthene	12	.400	95.000		.700	ug/L
	Benzobutylphthalate	12	.600	6.000	.500	.600	ug/L
	Bis(2-chloroethoxyl)methane	12	1.300	13.000	.350	3.500	ug/L
	Bis(2-chloroethyl)ether	12	1.800	18.000	.500	4.400	ug/L
	Bis(2-chloroisopropyl)ether	12	1.500	15.000	.220	2.200	ug/L
	Bis(2-ethylhexyl)phthalate	12	1.400	14.000	1.000	2.200	ug/L
	Camphene	12	1.000	10.000	.500	3.500	ug/L
	Chrysene	12	19.000	130.000	18.000	.300	ug/L
	Di-n-butyl Phthalate	12	1.100	11.000	3.000	3.800	ug/L
	Di-n-octyl Phthalate	12	.800	8.000	.200	2.000	ug/L
	Dibenz(a,h)anthracene	12	.400	21.000	.500	1.300	ug/L
	Diphenylamine	12	1.900	19.000	2.000	14.000	ug/L
	Fluoranthene	12	15.000	260.000	32.000	.400	ug/L
	Fluorene	12	.300	15.000	.200	1.700	ug/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.6 (continued)

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0700 STREAM: COKE PLANT BIOLOGICAL PLANT DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
---	-----	---	-----	-----	-----	-----
19	Indeno(1,2,3-cd)pyrene	12	.600	62.000	16.000	1.300 ug/L
	Indole	12	1.200	910.000	.200	1.900 ug/L
	N-Nitrosodi-n-propylamine	12	2.100	21.000	.500	3.100 ug/L
	N-Nitrosodiphenylamine	12	1.900	19.000	2.000	14.000 ug/L
	Naphthalene	157	.300	610.000	.200	1.600 ug/L
	Perylene	12	.300	29.000	14.000	1.500 ug/L
	Phenanthrene	12	.300	21.000		.400 ug/L
	Pyrene	12	20.000	200.000	26.000	.400 ug/L
25	Oil and Grease	154	.200	39.000	12.000	1.000 mg/L
4a	Ammonia plus Ammonium	156	34.000	220.000	66.600	.250 mg/L as N
98	Flow	360	1962.000	3279.000		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.7

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0800 STREAM: BLAST FURNACE RECYCLE BLOWDOWN CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900430

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	78	.008	3.300	.006	.005 mg/L HCN
8	Total Suspended Solids	78	10.000	130.000	26.600	5.000 mg/L
	Volatile Suspended Solids	78	3.000	26.000	12.700	10.000 mg/L
9	Zinc	78	.060	2.500	.150	.010 mg/L
14	Phenolics (4AAP)	78	.500	290.000	3.400	2.000 ug/L
4a	Ammonia plus Ammonium	78	.950	46.000	24.400	.250 mg/L as N
98	Ftflow	178	98.000	98375.000		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.8

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0800 STREAM: BLAST FURNACE RECYCLE BLOWDOWN CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 900501 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	49	.011	6.400	.006	.005 mg/L HCM
8	Total Suspended Solids	49	4.000	570.000	26.600	5.000 mg/L
	Volatile Suspended Solids	49	2.000	84.000	12.700	10.000 mg/L
9	Zinc	49	.020	2.000	.150	.010 mg/L
14	Phenolics (4AAP)	48	43.000	2100.000	3.400	2.000 ug/L
4a	Ammonia plus Ammonium	49	.620	79.000	24.400	.250 mg/L as N
98	Ftflow	184	.000	6736.000		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

MIN CONCN = MINIMUM CONCENTRATION

MAX CONCN = MAXIMUM CONCENTRATION

INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION

RMDL = REGULATION METHOD OF DETECTION LIMIT

UNIT = UNIT OF CONCENTRATION

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TABLE IV-2.9

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 0900 STREAM: STEELMAKING CLARIFIER DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
8	Total Suspended Solids	157	11.000	390.000	27.100	5.000	mg/L
	Volatile Suspended Solids	157	1.000	28.000	8.400	10.000	mg/L
9	Lead	156	.010	.490	.068	.030	mg/L
	Zinc	156	.010	2.700	.100	.010	mg/L
25	Oil and Grease	157	.200	19.000	7.000	1.000	mg/L
98	Ftflow	354	65891.000	127601.000			m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE IV-2.10

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1000 STREAM: COLD MILL TREATMENT PLANT SEWER CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
8	Total Suspended Solids	157	31.000	2500.000		5.000 mg/L
	Volatile Suspended Solids	157	23.000	1500.000		10.000 mg/L
9	Chromium	157	.010	4.700		.020 mg/L
	Lead	157	.010	.590		.030 mg/L
	Zinc	157	.010	2.000		.010 mg/L
25	Oil and Grease	148	2.000	210.000		1.000 mg/L
5a	DOC	116	21.000	240.000		.500 mg/Las C
98	Ftflow	352	1514.000	7287.000		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

MIN CONCN = MINIMUM CONCENTRATION

MAX CONCN = MAXIMUM CONCENTRATION

INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION

RMDL = REGULATION METHOD OF DETECTION LIMIT

UNIT = UNIT OF CONCENTRATION

TABLE IV-2.11

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1100 STREAM: #1 HOT MILL FILTRATION PLANT DISCHARGE CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
---	-----	---	-----	-----	-----	-----	-----
8	Total Suspended Solids	157	3.000	440.000	9.400	5.000	mg/L
	Volatile Suspended Solids	157	1.000	43.000	3.800	10.000	mg/L
9	Lead	157	.010	.080	.016	.030	mg/L
	Zinc	157	.010	.460	.002	.010	mg/L
25	Oil and Grease	157	1.000	25.000	2.000	1.000	mg/L
98	Ftflow	365	1387.000	111974.000			m <sup>3</sup> /day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



TABLE IV-2.12

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

DOFASCO INC.

CONTROL POINT: 1200 STREAM: BOILER HOUSE SEWER #2 CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	12	.014	.100	.003	.005 mg/L HCN
6	Total Phosphorus	12	.030	.110	.060	.100 mg/Las P
7	Specific Conductance	4	506.000	713.000	705.000	5.000 uS/cm@25C
8	Total Suspended Solids	12	4.000	16.000	6.600	5.000 mg/L
9	Aluminum	4	.150	.290	.170	.030 mg/L
	Chromium	12	.005	.160	.024	.020 mg/L
	Copper	4	.010	.030	.028	.010 mg/L
	Lead	12	.030	.050	.047	.030 mg/L
	Molybdenum	4	.020	.030	.009	.020 mg/L
	Zinc	12	.010	.140	.043	.010 mg/L
10	Antimony	4	.003	.007	.001	.005 mg/L
14	Phenolics (4AAP)	11	2.000	100.000	2.000	2.000 ug/L
15	Sulphide	3	.012	.078	.010	.020 mg/L
23	1,2,3-Trichlorobenzene	4	.009	.020		.010 ug/L
	1,2,4,5-Tetrachlorobenzene	4	.005	.012		.010 ug/L
	1,2,4-Trichlorobenzene	4	.006	.057		.010 ug/L
	Hexachloroethane	4	.002	.040		.010 ug/L
25	Oil and Grease	12	.400	2.000	3.000	1.000 mg/L
4a	Ammonia plus Ammonium	12	.420	2.600	1.000	.250 mg/Las N
	Total Kjeldahl Nitrogen	4	1.200	1.900	1.800	.500 mg/Las N
4b	Nitrate+Nitrite	4	.860	2.500	2.000	.250 mg/Las N
5a	DOC	9	3.100	6.100	3.900	.500 mg/Las C
5b	TOC	4	3.900	5.800	6.000	5.000 mg/Las C
98	Ftflow	12	152885.000	157810.000		m3/day
1S1	Iron	12	.030	1.800	.440	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



**APPENDIX V**

**STELCO HILTON WORKS**

**FOR THE PERIOD**

**FROM NOVEMBER 1,1989 TO JULY 31,1990**



TABLE V-1.1

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0100 STREAM: WEST SIDE OPEN CUT CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	72	97	.058	.058	.058	.046		mg/L HCN
Total Phosphorus	23	4	.051	.064	.054	.021	QC	mg/Las P
Specific Conductance	120	100	812.417	812.417	812.417	84.902		uS/cm@25C
Total Suspended Solids	140	99	8.150	8.186	8.184	3.535		mg/L
Aluminum	5	100	.187	.187	.187	.146		mg/L
Cadmium	5	40	.002	.003	.003	.002	QC	mg/L
Chromium	57	11	.011	.014	.011	.010	QC	mg/L
Copper	5	60	.012	.016	.015	.011	QC	mg/L
Lead	57	5	.004	.026	.008	.007	QC	mg/L
Vanadium	5	100	.107	.107	.107	.058		mg/L
Zinc	73	96	.054	.055	.055	.031		mg/L
Chromium (hexavalent)	3	33	.005	.011	.009	.005		mg/L
Phenolics (4AAP)	72	100	18.167	18.231	18.231	39.015		ug/L
Sulphide	3	67	.020	.027	.026	.012		mg/L
1,1,2-Trichloroethane	5	20	.120	.600	.600		QC	ug/L
Bromoform	5	20	2.260	4.480	2.496	4.754		ug/L
Dibromochloromethane	5	20	1.360	2.020	1.600	2.683		ug/L
Benzene	53	15	.792	1.179	.947	2.209		ug/L
4-Bromophenyl Phenyl Ether	5	20	.060	.300	.300		QC	ug/L
4-Chlorophenyl Phenyl Ether	5	20	.180	.900	.900		QC	ug/L
Benz(a)anthracene	5	40	.560	.860	.680	.746		ug/L
Benzo(a)pyrene	53	19	.329	.703	.641	.355	QC	ug/L
Benzo(b)fluoranthene	5	20	.660	1.080	.900	1.118		ug/L
Benzo(k)fluoranthene	5	40	.980	1.400	1.220	1.386		ug/L
Benzobutylphthalate	5	20	.120	.600	.600		QC	ug/L
Chrysene	5	60	.620	.740	.740	.586		ug/L
Fluoranthene	5	60	1.880	1.960	1.920	2.007		ug/L
Phenanthrene	5	60	.960	1.120	1.080	1.011		ug/L
Pyrene	5	80	1.480	1.560	1.540	1.369		ug/L
2,3,4,5-Tetrachlorophenol	5	20	.080	.400	.400		QC	ug/L
4-Nitrophenol	5	20	.280	1.400	1.400		QC	ug/L
p-Cresol	5	20	.700	3.500	3.500		QC	ug/L
Oil and Grease	140	72	1.442	1.650	1.641	1.160	QC	mg/L
Ammonia plus Ammonium	73	82	.862	.868	.863	.452		mg/Las N
Total Kjeldahl Nitrogen	3	100	1.267	1.267	1.267	.231		mg/Las N
Nitrate+Nitrite	3	100	3.000	3.000	3.000	.557		mg/Las N
DOC	57	100	4.347	4.347	4.347	1.514		mg/Las C
TOC	3	67	6.400	6.400	6.400	1.900		mg/Las C
Flow	144	100	58685.556	58685.556	58685.556	7240.659		m3/day
Iron	39	100	.405	.405	.405	.267		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.2

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0200 STREAM: NORTHWEST OUTFALL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	-----
Cyanide Total	74	93	.071	.072	.071	.108		mg/L HCM
Total Phosphorus	23	22	.102	.120	.108	.160		mg/Las P
Specific Conductance	112	100	664.107	664.107	664.107	42.311		uS/cm@25C
Total Suspended Solids	132	97	8.220	8.333	8.329	3.860		mg/L
Volatile Suspended Solids	132	2	3.588	4.421	3.825	1.471		mg/L
Aluminum	5	100	.322	.322	.322	.284		mg/L
Cadmium	5	60	.002	.003	.003	.002	QC	mg/L
Chromium	58	5	.009	.012	.010	.005	QC	mg/L
Copper	5	40	.019	.021	.020	.024	QC	mg/L
Lead	58	3	.004	.023	.008	.006	QC	mg/L
Vanadium	5	80	.065	.065	.065	.042		mg/L
Zinc	74	92	.061	.061	.061	.073		mg/L
Phenolics (4AAP)	74	100	9.572	9.820	9.820	15.362		ug/L
Sulphide	2	50	.020	.030	.029	.015		mg/L
1,1,2-Trichloroethane	5	20	.120	.600	.600		QC	ug/L
Benzene	54	20	1.352	1.676	1.481	3.446		ug/L
4-Bromophenyl Phenyl Ether	5	20	.060	.300	.300		QC	ug/L
4-Chlorophenyl Phenyl Ether	5	20	.180	.900	.900		QC	ug/L
Benzobutylphthalate	5	20	.120	.600	.600		QC	ug/L
Chrysene	5	20	.060	.300	.300		QC	ug/L
Fluoranthene	5	20	.142	.382	.262	.139	QC	ug/L
Pyrene	5	20	.142	.382	.322	.049	QC	ug/L
2,3,4,5-Tetrachlorophenol	5	20	.080	.400	.400		QC	ug/L
4-Nitrophenol	5	20	.280	1.400	1.400		QC	ug/L
p-Cresol	5	20	.700	3.500	3.500		QC	ug/L
1,2,4-Trichlorobenzene	5	20	.004	.010	.008	.004	QC	ug/L
Hexachlorobenzene	5	20	.003	.009	.005	.004	QC	ug/L
Hexachloroethane	5	20	.014	.020	.015	.031		ug/L
Oil and Grease	130	53	1.299	1.591	1.580	2.127	QC	mg/L
Ammonia plus Ammonium	74	86	.863	.873	.868	.463		mg/Las N
Total Kjeldahl Nitrogen	2	100	.665	.665	.665	.021		mg/Las N
Nitrate+Nitrite	2	100	2.050	2.050	2.050	.636		mg/Las N
DOC	58	100	4.202	4.202	4.202	1.818		mg/Las C
TOC	2	50	4.350	4.350	4.350	1.485		mg/Las C
Ftflow	144	100	194153.361	194153.361	194153.361	55811.976		m3/day
Iron	39	100	.494	.494	.494	.461		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.3

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 0400    STREAM: NORTH OUTFALL    CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	39	90	.025	.025	.025	.042		mg/L HCN
Specific Conductance	266	100	621.391	621.391	621.391	75.715		us/cm@25C
Total Suspended Solids	266	77	6.068	7.158	7.083	3.702		mg/L
Aluminum	9	89	.198	.198	.198	.135		mg/L
Cadmium	9	11	.000	.002	.002		QC	mg/L
Cobalt	9	11	.006	.022	.009	.016		mg/L
Copper	9	78	.029	.031	.030	.024	QC	mg/L
Molybdenum	9	11	.012	.014	.012	.004		mg/L
Nickel	9	44	.021	.021	.021	.007		mg/L
Vanadium	9	78	.075	.079	.076	.046		mg/L
Zinc	117	92	.043	.044	.043	.054		mg/L
Phenolics (4AAP)	39	100	6.444	7.387	7.387	10.032		ug/L
Sulphide	3	67	.013	.020	.020	.001		mg/L
1,1,2-Trichloroethane	9	11	.067	.600	.600		QC	ug/L
Dibromochloromethane	9	11	.244	1.100	.556	.430	QC	ug/L
4-Bromophenyl Phenyl Ether	9	11	.033	.300	.300		QC	ug/L
4-Chlorophenyl Phenyl Ether	9	11	.100	.900	.900		QC	ug/L
Benzobutylphthalate	9	11	.067	.600	.600		QC	ug/L
Chrysene	9	11	.033	.300	.300		QC	ug/L
Di-n-octyl Phthalate	9	22	3.033	4.144	3.478	6.972		ug/L
Hexachloroethane	9	11	.009	.017	.010	.026		ug/L
Oil and Grease	266	83	1.486	1.621	1.616	.702	QC	mg/L
Ammonia plus Ammonium	39	77	.647	.679	.662	.376		mg/Las N
Total Kjeldahl Nitrogen	3	100	1.107	1.107	1.107	.439		mg/Las N
Nitrate+Nitrite	3	100	2.300	2.300	2.300	.300		mg/Las N
DOC	117	100	5.044	5.044	5.044	3.206		mg/Las C
TOC	3	33	5.067	5.067	5.067	2.369		mg/Las C
Ftflow	273	100	180092.246	180092.246	180092.246	50898.276		m3/day
Iron	39	100	.409	.409	.409	.209		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.4

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0601 STREAM: EAST SIDE FILTER PLANT CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
			LTA	LTA				
Cyanide Total	117	95	.034	.034	.034	.018		mg/L HCN
Specific Conductance	271	100	659.779	659.779	659.779	70.726		uS/cm@25C
Total Suspended Solids	271	45	4.556	7.158	6.804	8.641		mg/L
Aluminum	9	100	.236	.236	.236	.120		mg/L
Cadmium	9	44	.002	.003	.003	.003	QC	mg/L
Chromium	117	9	.010	.014	.011	.008	QC	mg/L
Cobalt	9	11	.002	.020	.006	.005	QC	mg/L
Copper	9	89	.039	.040	.040	.029	QC	mg/L
Lead	117	2	.003	.025	.007	.005	QC	mg/L
Molybdenum	9	11	.009	.012	.010	.005	QC	mg/L
Nickel	9	67	.021	.027	.024	.012		mg/L
Vanadium	9	67	.052	.052	.052	.031		mg/L
Zinc	117	94	.052	.052	.052	.037		mg/L
Arsenic	9	11	.001	.005	.003	.001	QC	mg/L
Phenolics (4AAP)	117	100	15.584	15.918	15.918	17.757		ug/L
Sulphide	3	33	.010	.023	.023	.006		mg/L
Chloroform	9	11	.467	1.089	.822	1.267		ug/L
Dibromochloromethane	9	11	.467	1.444	.822	1.267		ug/L
Benzene	117	15	3.885	4.304	4.053	17.240		ug/L
Styrene	9	11	.067	.511	.422	.067	QC	ug/L
Toluene	9	11	.400	.844	.756	1.067	QC	ug/L
m-Xylene and p-Xylene	9	11	.200	1.178	.644	.433	QC	ug/L
o-Xylene	9	22	.144	.533	.456	.133	QC	ug/L
2,6-Dinitrotoluene	9	11	.111	.733	.644	.133	QC	ug/L
Benzo(a)pyrene	116	2	.015	.604	.506	.056	QC	ug/L
Di-n-octyl Phthalate	5	20	.760	1.960	1.240	.666		ug/L
Indole	9	11	.256	1.944	1.322	.367	QC	ug/L
Hexachlorocyclopentadiene	9	11	.001	.010	.006	.003	QC	ug/L
Hexachloroethane	9	22	.013	.021	.015	.026		ug/L
Pentachlorobenzene	9	11	.002	.010	.004	.004		ug/L
Oil and Grease	270	94	2.082	2.134	2.132	.878	QC	mg/L
Ammonia plus Ammonium	116	83	.629	.652	.640	.351		mg/Las N
Total Kjeldahl Nitrogen	3	100	.917	.917	.917	.263		mg/Las N
Nitrate+Nitrite	3	100	2.267	2.267	2.267	.850		mg/Las N
DOC	117	100	5.110	5.110	5.110	3.622		mg/Las C
TOC	3	33	4.933	4.933	4.933	1.815		mg/Las C
Flow	273	100	402783.478	402783.478	402783.478	91500.354		m3/day
Iron	39	100	.855	.855	.855	.706		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION



TABLE V-1.5

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 0602 STREAM: #1 60 INCH SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900514

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	-----	-----	-----	-----	---	---	---	-----
Cyanide Total	2	100	.025	.025	.025	.010		mg/L HCN
Specific Conductance	184	100	794.130	794.130	794.130	391.134		uS/cm@25C
Total Suspended Solids	183	84	7.086	8.043	7.996	5.966		mg/L
Aluminum	7	100	.234	.234	.234	.119		mg/L
Cadmium	7	38	.001	.002	.002		QC	mg/L
Chromium	83	5	.008	.013	.009	.006	QC	mg/L
Cobalt	7	13	.009	.027	.013	.023		mg/L
Copper	7	88	.029	.030	.030	.024	QC	mg/L
Nickel	7	38	.015	.021	.018	.007		mg/L
Vanadium	7	88	.059	.059	.059	.027		mg/L
Zinc	83	94	.041	.041	.041	.030		mg/L
Chromium (hexavalent)	2	33	.008	.014	.011	.008		mg/L
Phenolics (4AAP)	1	50	4.000	4.000	4.000		QC	ug/L
Sulphide	2	100	.575	.575	.575	.742		mg/L
Benzene	2	67	7.800	7.800	7.800	7.354		ug/L
Toluene	2	67	3.400	3.400	3.400	3.394		ug/L
m-Xylene and p-Xylene	2	67	2.700	2.700	2.700	1.980		ug/L
o-Xylene	2	33	.800	.800	.800	.566	QC	ug/L
Di-n-octyl Phthalate	2	33	2.100	3.100	2.500	2.404		ug/L
Fluoranthene	2	33	.250	.450	.350	.212	QC	ug/L
Pyrene	2	33	.200	.400	.350	.071	QC	ug/L
1,2,4-Trichlorobenzene	7	13	.015	.022	.019	.034		ug/L
Hexachloroethane	7	13	.009	.017	.010	.022		ug/L
Octachlorodibenzofuran	1	100	.083	.083	.083			ng/L
Total H6CDF	1	100	.930	.930	.930			ng/L
Total H7CDF	1	100	.450	.450	.450			ng/L
Total PCDF	1	100	.580	.580	.580			ng/L
Total TCDF	1	100	.360	.360	.360			ng/L
Oil and Grease	182	78	1.636	1.801	1.795	1.065	QC	mg/L
Ammonia plus Ammonium	2	83	1.200	1.200	1.200			mg/Las N
Total Kjeldahl Nitrogen	2	67	1.250	1.250	1.250	.495		mg/Las N
Nitrate+Nitrite	2	100	2.050	2.050	2.050	.071		mg/Las N
DOC	83	100	5.449	5.449	5.449	3.168		mg/Las C
TOC	2	33	4.750	4.750	4.750	2.051		mg/Las C
Ftflow	195	100	33643.995	33643.995	33643.995	11179.876		m3/day
Iron	7	100	3.803	3.803	3.803	2.072		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.6

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0602 STREAM: #1 60 INCH SEWER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 900515 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	4	100	.035	.035	.035	.019		mg/L HCN
Specific Conductance	52	100	630.962	630.962	630.962	43.217		uS/cm@25C
Total Suspended Solids	55	84	7.382	7.564	7.528	2.258		mg/L
Aluminum	1	100	.270	.270	.270			mg/L
Cadmium	1	38	.006	.006	.006		QC	mg/L
Chromium	26	5	.009	.012	.010	.006	QC	mg/L
Cobalt	1	13	.005	.005	.005			mg/L
Copper	1	88	.050	.050	.050		QC	mg/L
Nickel	1	38	.018	.018	.018			mg/L
Vanadium	1	88	.020	.020	.020			mg/L
Zinc	28	94	.034	.035	.035	.025		mg/L
Chromium (hexavalent)	1	33	.000	.010	.006			mg/L
Phenolics (4AAP)	3	50	.003	.770	.900	1.212	QC	ug/L
Sulphide	1	100	.020	.020	.020			mg/L
Benzene	1	67	.000	.500	.200			ug/L
Toluene	1	67	.000	.500	.400			ug/L
m-Xylene and p-Xylene	1	67	.000	1.100	.500			ug/L
o-Xylene	1	33	.000	.500	.400		QC	ug/L
Di-n-octyl Phthalate	1	33	1.700	1.700	1.700			ug/L
Fluoranthene	1	33	.000	.400	.200		QC	ug/L
Pyrene	1	33	.000	.400	.300		QC	ug/L
1,2,4-Trichlorobenzene	1	13	.000	.010	.006			ug/L
Hexachloroethane	1	13	.000	.010	.002			ug/L
Oil and Grease	55	78	1.798	2.107	2.095	3.262	QC	mg/L
Ammonia plus Ammonium	4	83	.692	.692	.692	.468		mg/Las N
Total Kjeldahl Nitrogen	1	67	.000	.500	.100			mg/Las N
Nitrate+Nitrite	1	100	2.400	2.400	2.400			mg/Las N
DOC	26	100	4.508	4.508	4.508	1.808		mg/Las C
TOC	1	33	3.600	3.600	3.600			mg/Las C
Ftflow	78	100	36826.974	36826.974	36826.974	11610.888		m3/day
Iron	4	100	.475	.475	.475	.155		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.7

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL MILTON WORKS

CONTROL POINT: 1100 STREAM: #2 ROD MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	9	44	.007	.009	.007	.011		mg/L HCN
Total Phosphorus	38	3	.007	.096	.029	.021	QC	mg/Las P
Specific Conductance	267	100	333.970	333.970	333.970	29.443		us/cm@25C
Total Suspended Solids	268	38	2.840	5.955	5.598	2.648		mg/L
Aluminum	9	100	.266	.266	.266	.186		mg/L
Cadmium	9	11	.001	.003	.003	.003	QC	mg/L
Cobalt	9	11	.008	.026	.012	.023		mg/L
Copper	9	78	.027	.030	.029	.026	QC	mg/L
Nickel	9	22	.012	.018	.015	.006	QC	mg/L
Vanadium	9	89	.053	.053	.053	.025		mg/L
Zinc	117	60	.027	.030	.029	.074		mg/L
Chromium (hexavalent)	3	33	.003	.010	.007	.002		mg/L
Phenolics (4AAP)	38	100	2.684	4.197	4.197	3.715	QC	ug/L
Sulphide	3	33	.007	.020	.019	.001		mg/L
Chloroform	9	44	.600	.989	.822	.507		ug/L
2,6-Dinitrotoluene	9	11	.078	.700	.611	.033	QC	ug/L
Di-n-octyl Phthalate	9	11	.511	2.067	1.133	.773		ug/L
1,2,3,4-Tetrachlorobenzene	9	11	.007	.016	.015	.018	QC	ug/L
1,2,3,5-Tetrachlorobenzene	9	11	.001	.010	.006	.002	QC	ug/L
1,2,3-Trichlorobenzene	9	11	.004	.013	.012	.009	QC	ug/L
1,2,4,5-Tetrachlorobenzene	9	11	.003	.012	.008	.009	QC	ug/L
1,2,4-Trichlorobenzene	9	11	.004	.013	.009	.009	QC	ug/L
Hexachlorobenzene	9	11	.004	.012	.006	.010	QC	ug/L
Hexachloroethane	9	11	.008	.017	.009	.023		ug/L
Pentachlorobenzene	9	11	.004	.012	.006	.010		ug/L
Oil and Grease	267	60	1.066	1.433	1.418	.769	QC	mg/L
Total Kjeldahl Nitrogen	9	11	.204	.316	.227	.156		mg/Las N
Nitrate+Nitrite	3	67	.300	.300	.300	.100		mg/Las N
DOC	39	95	3.979	4.005	4.001	6.021		mg/Las C
TOC	3	33	2.867	2.867	2.867	1.850		mg/Las C
Ftflow	273	100	27057.616	27057.616	27057.616	15275.811		m3/day
Iron	39	100	.506	.508	.508	.286		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.8

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL MILTON WORKS

CONTROL POINT: 1200 STREAM: 20 INCH MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
( 20 INCH MILL HAS BEEN CLOSED DOWN)

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	2	100	.023	.023	.023	.021		mg/L HCN
Specific Conductance	145	100	588.138	588.138	588.138	65.394		uS/cm@25C
Total Suspended Solids	145	95	13.702	13.909	13.901	6.592		mg/L
Volatile Suspended Solids	145	1	3.557	5.833	4.282	1.673		mg/L
Aluminum	6	100	.428	.428	.428	.173		mg/L
Cadmium	6	17	.003	.005	.005	.007		mg/L
Copper	6	100	.037	.037	.037	.022	QC	mg/L
Lead	66	2	.001	.029	.006	.003	QC	mg/L
Nickel	6	33	.023	.023	.023	.018		mg/L
Vanadium	6	67	.065	.065	.065	.054		mg/L
Zinc	66	94	.045	.045	.045	.045		mg/L
Chromium (hexavalent)	2	50	.014	.019	.017	.016		mg/L
Phenolics (4AAP)	21	100	2.333	3.867	3.867	3.585	QC	ug/L
Sulphide	2	50	.010	.020	.019	.001		mg/L
Pentachlorobenzene	6	17	.002	.010	.004	.004		ug/L
Oil and Grease	145	97	3.678	3.691	3.691	1.866		mg/L
Ammonia plus Ammonium	2	100	.485	.485	.485	.219		mg/Las N
Total Kjeldahl Nitrogen	2	50	.950	.950	.950	.919		mg/Las N
Nitrate+Nitrite	2	100	1.800	1.800	1.800	.424		mg/Las N
DOC	21	100	4.681	4.681	4.681	2.203		mg/Las C
TOC	2	50	5.450	5.450	5.450	4.031		mg/Las C
Flow	157	100	3626.159	3626.159	3626.159	1290.365		m3/day
Iron	21	100	1.237	1.238	1.238	2.505		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.9

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 1300 STREAM: #2 60 INCH SEWER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Cyanide Total	23	83	.014	.015	.014	.010	mg/L HCW
Specific Conductance	2	100	625.000	625.000	625.000	21.213	us/cm <sup>2</sup> 25C
Total Suspended Solids	23	87	17.175	17.610	17.526	25.518	mg/L
Volatile Suspended Solids	23	9	4.809	6.113	5.174	4.703	mg/L
Aluminum	2	100	.445	.445	.445	.445	mg/L
Copper	2	100	.050	.050	.050	.014 QC	mg/L
Lead	9	11	.008	.025	.011	.009 QC	mg/L
Vanadium	2	50	.058	.058	.058	.054	mg/L
Zinc	22	91	.087	.087	.087	.138	mg/L
Chromium (hexavalent)	2	50	.005	.010	.008	.003	mg/L
Phenolics (4AAP)	23	100	7.478	7.978	7.978	8.097	ug/L
Sulphide	2	50	.010	.020	.019	.001	mg/L
1,1-Dichloroethane	2	50	.850	1.250	1.100	.849	ug/L
Benzo(a)pyrene	7	43	.457	.800	.743	.364 QC	ug/L
1,2,4-Trichlorobenzene	2	50	.036	.041	.040	.047	ug/L
Oil and Grease	23	61	2.301	2.605	2.593	3.834	mg/L
Ammonia plus Ammonium	23	65	.360	.404	.385	.281	mg/Las N
Total Kjeldahl Nitrogen	2	100	.980	.980	.980	.311	mg/Las N
Nitrate+Nitrite	2	100	2.300	2.300	2.300	.283	mg/Las N
DOC	4	100	3.925	3.925	3.925	2.384	mg/Las C
Ftflow	24	100	1217.208	1217.208	1217.208	1599.962	m <sup>3</sup> /day
Iron	23	100	.581	.581	.581	.593	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC  
I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.10

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 1400 STREAM: EAST SIDE FILTER PLANT OVERFLOW WEIR CLASSIFICATION: EMERGENCY OVERFLOW  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Cyanide Total	3	100	.217	.217	.217	.176		mg/L HCN
Total Suspended Solids	3	100	3087.667	3087.667	3087.667	5293.436		mg/L
Volatile Suspended Solids	3	33	571.667	571.667	571.667	977.165		mg/L
Chromium	3	33	.162	.162	.162	.258		mg/L
Lead	3	67	2.313	2.313	2.313	3.973		mg/L
Zinc	3	100	6.044	6.044	6.044	10.355		mg/L
Phenolics (4AAP)	3	100	89.333	89.333	89.333	61.978		ug/L
Benzene	2	50	155.000	155.250	155.100	219.062		ug/L
Benzo(a)pyrene	2	50	44.000	44.300	44.250	61.872		ug/L
Naphthalene	2	50	900.000	900.800	900.150	1272.580		ug/L
Oil and Grease	2	100	6.300	6.300	6.300	.849		mg/L
Ammonia plus Ammonium	3	100	1.360	1.360	1.360	.692		mg/Les N
Iron	3	100	82.127	82.127	82.127	136.722		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.11

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL HILTON WORKS

CONTROL POINT: 1900    STREAM: ES STAGE 1    CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Sulphide	1	100	.040	.040	.040			mg/L
Dibromochloromethane	3	33	.967	1.700	1.233	1.443		ug/L
Benzene	44	2	.025	.514	.220	.136	QC	ug/L
Styrene	3	33	.300	.633	.567	.289	QC	ug/L
m-Xylene and p-Xylene	3	33	.400	1.133	.733	.404	QC	ug/L
o-Xylene	3	33	.233	.567	.500	.173	QC	ug/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE V-1.12

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 2000 STREAM: ES STAGE 2 CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Sulphide	1	100	.020	.020	.020		mg/L
Dibromochloromethane	3	33	1.600	2.333	1.867	2.540	ug/L
Styrene	3	33	.167	.500	.433	.058 QC	ug/L
o-Xylene	3	33	.167	.500	.433	.058 QC	ug/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION



TABLE V-2.1

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0100 STREAM: WEST SIDE OPEN CUT CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	72	.004	.310	.009	.005	mg/L HCN
6	Total Phosphorus	23	.010	.100	.060	.100	mg/Las P
7	Specific Conductance	120	610.000	1000.000	942.000	5.000	uS/cm@25C
8	Total Suspended Solids	140	4.800	25.000	6.100	5.000	mg/L
9	Aluminum	5	.060	.350	.110	.030	mg/L
	Cadmium	5	.002	.006	.001	.002	mg/L
	Chromium	57	.003	.068	.003	.020	mg/L
	Copper	5	.005	.030	.003	.010	mg/L
	Lead	57	.006	.042	.016	.030	mg/L
	Vanadium	5	.055	.180	.006	.030	mg/L
	Zinc	73	.009	.190	.024	.010	mg/L
11	Chromium (hexavalent)	3	.006	.014		.010	mg/L
14	Phenolics (4AAP)	72	2.000	280.000	9.400	2.000	ug/L
15	Sulphide	3	.019	.040	.021	.020	mg/L
16	1,1,2-Trichloroethane	5	.600	.600	.200	.600	ug/L
	Bromoform	5	.370	11.000	1.000	3.700	ug/L
	Dibromochloromethane	5	.400	6.400	.500	1.100	ug/L
17	Benzene	53	.200	12.000	.200	.500	ug/L
19	4-Bromophenyl Phenyl Ether	5	.300	.300	.200	.300	ug/L
	4-Chlorophenyl Phenyl Ether	5	.900	.900	.200	.900	ug/L
	Benz(a)anthracene	5	.200	1.900	.200	.500	ug/L
	Benzo(a)pyrene	53	.500	2.200	.200	.600	ug/L
	Benzo(b)fluoranthene	5	.400	2.900	.200	.700	ug/L
	Benzo(k)fluoranthene	5	.400	3.600	.200	.700	ug/L
	Benzobutylphthalate	5	.600	.600	.500	.600	ug/L
	Chrysene	5	.300	1.600	.200	.300	ug/L
	Fluoranthene	5	.200	4.600	1.600	.400	ug/L
	Phenanthrene	5	.300	2.500	1.200	.400	ug/L
	Pyrene	5	.300	3.500	1.000	.400	ug/L
20	2,3,4,5-Tetrachlorophenol	5	.400	.400	.200	.400	ug/L
	4-Nitrophenol	5	1.400	1.400	.500	1.400	ug/L
	p-Cresol	5	3.500	3.500	.350	3.500	ug/L
25	Oil and Grease	140	.960	12.000	2.000	1.000	mg/L
4a	Ammonia plus Ammonium	73	.040	1.800	1.050	.250	mg/Las N
	Total Kjeldahl Nitrogen	3	1.000	1.400	1.800	.500	mg/Las N
4b	Nitrate+Nitrite	3	2.500	3.600	2.950	.250	mg/Las N
5a	DOC	57	2.000	8.400	3.800	.500	mg/Las C
5b	TOC	3	4.800	8.500	6.000	5.000	mg/Las C
98	Flow	144	42920.000	70250.000		m3/day	
1S1	Iron	39	.080	1.600	.250	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE V-2.2

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0200 STREAM: NORTHWEST OUTFALL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	74	.002	.580	.002	.005 mg/L HCN
6	Total Phosphorus	23	.010	.730	.060	.100 mg/L as P
7	Specific Conductance	112	570.000	730.000	698.000	5.000 uS/cm@25C
8	Total Suspended Solids	132	3.000	27.000	12.000	5.000 mg/L
	Volatile Suspended Solids	132	2.000	11.000	4.800	10.000 mg/L
9	Aluminum	5	.100	.680	.260	.030 mg/L
	Cadmium	5	.002	.006	.001	.002 mg/L
	Chromium	58	.003	.036	.002	.020 mg/L
	Copper	5	.005	.060	.005	.010 mg/L
	Lead	58	.006	.042	.012	.030 mg/L
	Vanadium	5	.025	.120	.005	.030 mg/L
	Zinc	74	.009	.560	.023	.010 mg/L
14	Phenolics (4AAP)	74	2.000	120.000	2.600	2.000 ug/L
15	Sulphide	2	.019	.040	.684	.020 mg/L
16	1,1,2-Trichloroethane	5	.600	.600	.200	.600 ug/L
17	Benzene	54	.200	19.000	.200	.500 ug/L
19	4-Bromophenyl Phenyl Ether	5	.300	.300	.200	.300 ug/L
	4-Chlorophenyl Phenyl Ether	5	.900	.900	.200	.900 ug/L
	Benzobutylphthalate	5	.600	.600	.500	.600 ug/L
	Chrysene	5	.300	.300	.200	.300 ug/L
	Fluoranthene	5	.200	.510	.200	.400 ug/L
	Pyrene	5	.300	.410	.200	.400 ug/L
20	2,3,4,5-Tetrachlorophenol	5	.400	.400	.200	.400 ug/L
	4-Nitrophenol	5	1.400	1.400	.500	1.400 ug/L
	p-Cresol	5	3.500	3.500	.350	3.500 ug/L
23	1,2,4-Trichlorobenzene	5	.006	.014	.002	.010 ug/L
	Hexachlorobenzene	5	.003	.012	.001	.010 ug/L
	Hexachloroethane	5	.002	.070	.001	.010 ug/L
25	Oil and Grease	130	.960	23.000	1.000	1.000 mg/L
4a	Ammonia plus Ammonium	74	.100	2.800	.950	.250 mg/L as N
	Total Kjeldahl Nitrogen	2	.650	.680	1.750	.500 mg/L as N
4b	Nitrate+Nitrite	2	1.600	2.500	1.900	.250 mg/L as N
5a	DOC	58	2.200	13.000	3.800	.500 mg/L as C
5b	TOC	2	3.300	5.400	7.000	5.000 mg/L as C
98	Flow	144	15200.000	254800.000		m3/day
IS1	Iron	39	.037	2.500	1.400	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

MIN CONCN = MINIMUM CONCENTRATION

MAX CONCN = MAXIMUM CONCENTRATION

INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION

RMDL = REGULATION METHOD OF DETECTION LIMIT

UNIT = UNIT OF CONCENTRATION

TABLE V-2.3

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0400 STREAM: NORTH OUTFALL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	39	.002	.270	.005	.005 mg/L HCN
7	Specific Conductance	266	320.000	740.000	694.000	5.000 uS/cm@25C
8	Total Suspended Solids	266	4.030	28.000	12.000	5.000 mg/L
9	Aluminum	9	.010	.400	.100	.030 mg/L
	Cadmium	9	.002	.002	.002	.002 mg/L
	Cobalt	9	.004	.051	.004	.020 mg/L
	Copper	9	.005	.068	.002	.010 mg/L
	Molybdenum	9	.006	.020	.009	.020 mg/L
	Nickel	9	.010	.030	.011	.020 mg/L
	Vanadium	9	.004	.130	.005	.030 mg/L
	Zinc	117	.004	.560	.013	.010 mg/L
14	Phenolics (4AAP)	39	2.300	44.000	2.400	2.000 ug/L
15	Sulphide	3	.019	.020	.006	.020 mg/L
16	1,1,2-Trichloroethane	9	.600	.600	.200	.600 ug/L
	Dibromochloromethane	9	.400	1.700	.500	1.100 ug/L
19	4-Bromophenyl Phenyl Ether	9	.300	.300	.200	.300 ug/L
	4-Chlorophenyl Phenyl Ether	9	.900	.900	.200	.900 ug/L
	Benzobutylphthalate	9	.600	.600	.500	.600 ug/L
	Chrysene	9	.300	.300	.200	.300 ug/L
	Di-n-octyl Phthalate	9	.800	22.000	.200	2.000 ug/L
23	Hexachloroethane	9	.002	.080	.001	.010 ug/L
25	Oil and Grease	266	.960	6.100	2.000	1.000 mg/L
4a	Ammonia plus Ammonium	39	.040	1.300	.800	.250 mg/Las N
	Total Kjeldahl Nitrogen	3	.760	1.600	1.550	.500 mg/Las N
4b	Nitrate+Nitrite	3	2.000	2.600	2.050	.250 mg/Las N
5a	DOC	117	1.100	19.000	3.900	.500 mg/Las C
5b	TOC	3	3.600	7.800	6.000	5.000 mg/Las C
98	Ftflow	273	10500.000	358700.000		m3/day
IS1	Iron	39	.120	1.100	.720	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE V-2.4

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0601 STREAM: EAST SIDE FILTER PLANT CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	117	.002	.100		.005	mg/L HCN
7	Specific Conductance	271	470.000	760.000	728.000	5.000	uS/cm@25C
8	Total Suspended Solids	271	4.030	130.000	4.400	5.000	mg/L
9	Aluminum	9	.070	.420	.065	.030	mg/L
	Cadmium	9	.002	.010	.002	.002	mg/L
	Chromium	117	.003	.060	.004	.020	mg/L
	Cobalt	9	.004	.020	.005	.020	mg/L
	Copper	9	.005	.090	.004	.010	mg/L
	Lead	117	.006	.054	.018	.030	mg/L
	Molybdenum	9	.006	.020	.004	.020	mg/L
	Nickel	9	.009	.044	.014	.020	mg/L
	Vanadium	9	.020	.100	.004	.030	mg/L
	Zinc	117	.004	.250	.011	.010	mg/L
10	Arsenic	9	.002	.006	.001	.005	mg/L
14	Phenolics (4AAP)	117	2.300	80.000		2.000	ug/L
15	Sulphide	3	.019	.030		.020	mg/L
16	Chloroform	9	.400	4.200		.700	ug/L
	Dibromochloromethane	9	.400	4.200		1.100	ug/L
17	Benzene	117	.200	130.000		.500	ug/L
	Styrene	9	.400	.600		.500	ug/L
	Toluene	9	.400	3.600		.500	ug/L
	m-Xylene and p-Xylene	9	.500	1.800		1.100	ug/L
	o-Xylene	9	.400	.800		.500	ug/L
19	2,6-Dinitrotoluene	9	.600	1.000	.500	.700	ug/L
	Benzo(a)pyrene	116	.500	1.100	.200	.600	ug/L
	Di-n-octyl Phthalate	5	.800	2.300	.200	2.000	ug/L
	Indole	9	1.200	2.300	.200	1.900	ug/L
23	Hexachlorocyclopentadiene	9	.005	.013	.001	.010	ug/L
	Hexachloroethane	9	.002	.060	.001	.010	ug/L
	Pentachlorobenzene	9	.002	.012	.001	.010	ug/L
25	Oil and Grease	270	.960	5.900		1.000	mg/L
4a	Ammonia plus Ammonium	116	.040	1.700	.600	.250	mg/Las N
	Total Kjeldahl Nitrogen	3	.680	1.200	1.100	.500	mg/Las N
4b	Nitrate+Nitrite	3	1.300	2.900	2.600	.250	mg/Las N
5a	DOC	117	1.300	21.000	4.500	.500	mg/Las C
5b	TOC	3	3.600	7.000	6.000	5.000	mg/Las C
98	Ftflow	273	16100.000	508100.000			m3/day
1S1	Iron	39	.100	3.100	.320	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE V-2.5

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0602 STREAM: #1 60 INCH SEWER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900514

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	2	.018	.032	.009	.005	mg/L HCN
7	Specific Conductance	184	470.000	5100.000	728.000	5.000	uS/cm@25C
8	Total Suspended Solids	183	4.030	67.000	9.800	5.000	mg/L
9	Aluminum	7	.110	.420	.120	.030	mg/L
	Cadmium	7	.002	.002	.001	.002	mg/L
	Chromium	83	.003	.030	.005	.020	mg/L
	Cobalt	7	.004	.066	.005	.020	mg/L
	Copper	7	.005	.063	.003	.010	mg/L
	Nickel	7	.009	.029	.008	.020	mg/L
	Vanadium	7	.031	.110	.004	.030	mg/L
	Zinc	83	.004	.190	.015	.010	mg/L
11	Chromium (hexavalent)	2	.006	.017		.010	mg/L
14	Phenolics (4AAP)	1	4.000	4.000	3.000	2.000	ug/L
15	Sulphide	2	.050	1.100	.003	.020	mg/L
17	Benzene	2	2.600	13.000	1.000	.500	ug/L
	Toluene	2	1.000	5.800	1.000	.500	ug/L
	m-Xylene and p-Xylene	2	1.300	4.100	1.000	1.100	ug/L
	o-Xylene	2	.400	1.200	.600	.500	ug/L
19	Di-n-octyl Phthalate	2	.800	4.200	.200	2.000	ug/L
	Fluoranthene	2	.200	.500	.200	.400	ug/L
	Pyrene	2	.300	.400	.200	.400	ug/L
23	1,2,4-Trichlorobenzene	7	.006	.096	.002	.010	ug/L
	Hexachloroethane	7	.002	.060	.001	.010	ug/L
24	Octachlorodibenzofuran	1	.083	.083		.030	ng/L
	Total H6CDF	1	.930	.930		.020	ng/L
	Total H7CDF	1	.450	.450		.030	ng/L
	Total PCDF	1	.580	.580		.015	ng/L
	Total TCDF	1	.360	.360		.015	ng/L
25	Oil and Grease	182	.960	8.000	.100	1.000	mg/L
4a	Ammonia plus Ammonium	2	1.200	1.200	1.000	.250	mg/Las N
	Total Kjeldahl Nitrogen	2	.900	1.600	1.700	.500	mg/Las N
4b	Nitrate+Nitrite	2	2.000	2.100	1.900	.250	mg/Las N
5a	DOC	83	1.700	16.000	7.200	.500	mg/Las C
5b	TOC	2	3.300	6.200	10.000	5.000	mg/Las C
98	Flow	195	198.000	53200.000			m3/day
IS1	Iron	7	1.120	7.200	.980	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE V-2.6

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 0602 STREAM: #1 60 INCH SEWER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 900515 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	4	.014	.056	.009	.005	mg/L HCN
7	Specific Conductance	52	560.000	720.000	728.000	5.000	us/cm <sup>2</sup> 25C
8	Total Suspended Solids	55	4.030	12.000	9.800	5.000	mg/L
9	Aluminum	1	.270	.270	.120	.030	mg/L
	Cadmium	1	.006	.006	.001	.002	mg/L
	Chromium	26	.004	.036	.005	.020	mg/L
	Cobalt	1	.005	.005	.005	.020	mg/L
	Copper	1	.050	.050	.003	.010	mg/L
	Nickel	1	.018	.018	.008	.020	mg/L
	Vanadium	1	.020	.020	.004	.030	mg/L
	Zinc	28	.009	.120	.015	.010	mg/L
11	Chromium (hexavalent)	1	.006	.006		.010	mg/L
14	Phenolics (4AAP)	3	.200	2.300	3.000	2.000	ug/L
15	Sulphide	1	.020	.020	.003	.020	mg/L
17	Benzene	1	.200	.200	1.000	.500	ug/L
	Toluene	1	.400	.400	1.000	.500	ug/L
	m-Xylene and p-Xylene	1	.500	.500	1.000	1.100	ug/L
	o-Xylene	1	.400	.400	.600	.500	ug/L
19	Di-n-octyl Phthalate	1	1.700	1.700	.200	2.000	ug/L
	Fluoranthene	1	.200	.200	.200	.400	ug/L
	Pyrene	1	.300	.300	.200	.400	ug/L
23	1,2,4-Trichlorobenzene	1	.006	.006	.002	.010	ug/L
	Hexachloroethane	1	.002	.002	.001	.010	ug/L
25	Oil and Grease	55	.960	24.000	.100	1.000	mg/L
4a	Ammonia plus Ammonium	4	.160	1.300	1.000	.250	mg/Las N
	Total Kjeldahl Nitrogen	1	.100	.100	1.700	.500	mg/Las N
4b	Nitrate+Nitrite	1	2.400	2.400	1.900	.250	mg/Las N
5a	DOC	26	2.400	10.000	7.200	.500	mg/Las C
5b	TOC	1	3.600	3.600	10.000	5.000	mg/Las C
98	Ftflow	78	5340.000	8115.000			m3/day
IS1	Iron	4	.290	.650	.980	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

^2

TABLE V-2.7

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 1100 STREAM: #2 ROD MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	9	.002	.036	.001	.005 mg/L HCN
6	Total Phosphorus	38	.010	.110	.020	.100 mg/Las P
7	Specific Conductance	267	280.000	750.000	332.000	5.000 uS/cm@25C
8	Total Suspended Solids	268	4.030	20.000	9.200	5.000 mg/L
9	Aluminum	9	.080	.720	.210	.030 mg/L
	Cadmium	9	.002	.010	.001	.002 mg/L
	Cobalt	9	.004	.072	.003	.020 mg/L
	Copper	9	.005	.084	.001	.010 mg/L
	Nickel	9	.010	.025	.005	.020 mg/L
	Vanadium	9	.020	.110	.003	.030 mg/L
	Zinc	117	.004	.790	.002	.010 mg/L
11	Chromium (hexavalent)	3	.006	.010		.010 mg/L
14	Phenolics (4AAP)	38	2.300	17.000	1.000	2.000 ug/L
15	Sulphide	3	.019	.020	.002	.020 mg/L
16	Chloroform	9	.400	1.500	2.000	.700 ug/L
19	2,6-Dinitrotoluene	9	.600	.700	.500	.700 ug/L
	Di-n-octyl Phthalate	9	.800	3.100	.200	2.000 ug/L
23	1,2,3,4-Tetrachlorobenzene	9	.009	.062	.001	.010 ug/L
	1,2,3,5-Tetrachlorobenzene	9	.005	.010	.001	.010 ug/L
	1,2,3-Trichlorobenzene	9	.009	.037	.001	.010 ug/L
	1,2,4,5-Tetrachlorobenzene	9	.005	.031	.001	.010 ug/L
	1,2,4-Trichlorobenzene	9	.006	.034	.002	.010 ug/L
	Hexachlorobenzene	9	.003	.032	.001	.010 ug/L
	Hexachloroethane	9	.002	.070	.001	.010 ug/L
	Pentachlorobenzene	9	.002	.033	.001	.010 ug/L
25	Oil and Grease	267	.960	8.800	1.000	1.000 mg/L
4a	Total Kjeldahl Nitrogen	9	.090	.550	.150	.500 mg/Las N
4b	Nitrate+Nitrite	3	.200	.400	.350	.250 mg/Las N
5a	DOC	39	.350	36.000	1.700	.500 mg/Las C
5b	TOC	3	1.700	5.000	2.000	5.000 mg/Las C
98	Ftflow	273	280.000	49300.000		m3/day
151	Iron	39	.036	1.300	.510	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE V-2.8

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 1200 STREAM: 20 INCH MILL CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	2	.009	.038		.005	mg/L HCN
7	Specific Conductance	145	450.000	710.000		5.000	uS/cm@25C
8	Total Suspended Solids	145	4.800	35.000		5.000	mg/L
	Volatile Suspended Solids	145	2.800	11.000		10.000	mg/L
9	Aluminum	6	.170	.620		.030	mg/L
	Cadmium	6	.002	.020		.002	mg/L
	Copper	6	.018	.070		.010	mg/L
	Lead	66	.006	.030		.030	mg/L
	Nickel	6	.011	.060		.020	mg/L
	Vanadium	6	.021	.170		.030	mg/L
	Zinc	66	.004	.240		.010	mg/L
11	Chromium (hexavalent)	2	.006	.028		.010	mg/L
14	Phenolics (4AAP)	21	2.300	17.000		2.000	ug/L
15	Sulphide	2	.019	.020		.020	mg/L
23	Pentachlorobenzene	6	.002	.012		.010	ug/L
25	Oil and Grease	145	.960	14.000		1.000	mg/L
4a	Ammonia plus Ammonium	2	.330	.640		.250	mg/Las N
	Total Kjeldahl Nitrogen	2	.300	1.600		.500	mg/Las N
4b	Nitrate+Nitrite	2	1.500	2.100		.250	mg/Las N
5a	DOC	21	1.700	10.000		.500	mg/Las C
5b	TOC	2	2.600	8.300		5.000	mg/Las C
98	Ftflow	157	58.000	7150.000			m3/day
IS1	Iron	21	.036	12.000		.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



TABLE V-2.9

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 1300 STREAM: #2 60 INCH SEWER CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
2	Cyanide Total	23	.002	.043	.002	.005	mg/L HCN
7	Specific Conductance	2	610.000	640.000	637.000	5.000	uS/cm@25C
8	Total Suspended Solids	23	4.030	110.000	8.300	5.000	mg/L
	Volatile Suspended Solids	23	1.000	19.000	3.100	10.000	mg/L
9	Aluminum	2	.130	.760	.092	.030	mg/L
	Copper	2	.040	.060	.003	.010	mg/L
	Lead	9	.006	.030	.013	.030	mg/L
	Vanadium	2	.020	.096	.004	.030	mg/L
	Zinc	22	.009	.660	.009	.010	mg/L
11	Chromium (hexavalent)	2	.006	.010		.010	mg/L
14	Phenolics (4AAP)	23	2.300	42.000	1.600	2.000	ug/L
15	Sulphide	2	.019	.020	.004	.020	mg/L
16	1,1-Dichloroethane	2	.500	1.700	.500	.800	ug/L
19	Benzo(a)pyrene	7	.500	1.400	.200	.600	ug/L
23	1,2,4-Trichlorobenzene	2	.006	.073	.002	.010	ug/L
25	Oil and Grease	23	.960	18.000	.100	1.000	mg/L
4a	Ammonia plus Ammonium	23	.140	1.400	.500	.250	mg/Las N
	Total Kjeldahl Nitrogen	2	.760	1.200	1.150	.500	mg/Las N
4b	Nitrate+Nitrite	2	2.100	2.500	2.100	.250	mg/Las N
5a	DOC	4	2.700	7.500	3.200	.500	mg/Las C
98	Flow	24	9.000	6007.000			m3/day
1S1	Iron	23	.090	2.400	.150	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE V-2.10

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL MILTON WORKS

CONTROL POINT: 1900 STREAM: ES STAGE 1 CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
---	-----	---	-----	-----	-----	-----
15	Sulphide	1	.040	.040	.003	.020 mg/L
16	Dibromochloromethane	3	.400	2.900	.500	1.100 ug/L
17	Benzene	44	.200	1.100	.200	.500 ug/L
	Styrene	3	.400	.900		.500 ug/L
	m-Xylene and p-Xylene	3	.500	1.200	.500	1.100 ug/L
	o-Xylene	3	.400	.700	.200	.500 ug/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE V-2.11

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL HILTON WORKS

CONTROL POINT: 2000 STREAM: ES STAGE 2 CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
---	-----	---	-----	-----	-----	-----
15	Sulphide	1	.020	.020	.005	.020 mg/L
16	Dibromochloromethane	3	.400	4.800	.500	1.100 ug/L
17	Styrene	3	.400	.500		.500 ug/L
	o-Xylene	3	.400	.500	1.000	.500 ug/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



**APPENDIX VI**

**STELCO LAKE ERIE WORKS**

**FOR THE PERIOD**

**FROM NOVEMBER 1,1989 TO JULY 31,1990**



TABLE VI-1.1

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0100 STREAM: #4 POND DISCHARGE CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD	DEV	QC	UNIT
			MINIMUM	MAXIMUM					
-----	---	-----	-----	-----	---	---	---	---	-----
Cyanide Total	115	97	.040	.040	.040	.019			mg/L HCN
Total Phosphorus	38	47	.093	.146	.135	.084	QC		mg/Las P
Specific Conductance	267	100	903.895	903.895	903.895	94.604			us/cm25C
Total Suspended Solids	268	75	6.475	7.539	7.476	2.664	QC		mg/L
Aluminum	9	100	.351	.351	.351	.234			mg/L
Cadmium	37	41	.007	.008	.008	.017			mg/L
Chromium	40	10	.009	.011	.009	.005	QC		mg/L
Copper	40	58	.011	.013	.012	.012	QC		mg/L
Lead	39	13	.016	.038	.021	.044	QC		mg/L
Molybdenum	9	33	.018	.018	.018	.008	QC		mg/L
Nickel	9	22	.010	.019	.014	.008	QC		mg/L
Vanadium	9	33	.040	.043	.043	.053	QC		mg/L
Zinc	39	90	.098	.099	.099	.113			mg/L
Selenium	9	100	.017	.017	.017	.007			mg/L
Chromium (hexavalent)	3	33	.005	.011	.011	.002			mg/L
Mercury	9	78	.478	.489	.480	.447			ug/L
Phenolics (4AAP)	115	38	1.355	1.998	1.870	.754	QC		ug/L
Sulphide	3	33	.013	.027	.026	.012			mg/L
Bromoform	9	89	33.444	33.856	33.486	24.351			ug/L
Bromomethane	9	11	.411	3.700	2.544	.433	QC		ug/L
Chloroform	9	78	2.900	3.056	2.989	2.589	QC		ug/L
Dibromochloromethane	9	100	24.200	24.200	24.200	17.685			ug/L
Methylene Chloride	9	11	1.022	2.178	1.289	2.967			ug/L
Bis(2-ethylhexyl)phthalate	9	11	.644	2.600	1.889	1.467	QC		ug/L
1,2,3,4-Tetrachlorobenzene	9	11	.000	1.020	1.019	3.030			ug/L
1,2,3,5-Tetrachlorobenzene	9	11	.000	.609	.605	1.798			ug/L
1,2,3-Trichlorobenzene	9	11	.000	.964	.963	2.864			ug/L
1,2,4,5-Tetrachlorobenzene	9	11	.000	.598	.594	1.765			ug/L
1,2,4-Trichlorobenzene	9	11	.000	.687	.683	2.031			ug/L
2,4,5-Trichlorotoluene	9	11	.000	.309	.302	.899			ug/L
Hexachlorobenzene	9	11	.000	.342	.336	.999			ug/L
Hexachlorobutadiene	9	11	.000	.287	.280	.832			ug/L
Hexachlorocyclopentadiene	9	11	.000	.531	.526	1.565			ug/L
Hexachloroethane	9	11	.000	.198	.190	.566			ug/L
Octachlorostyrene	9	11	.000	.298	.291	.866			ug/L
Pentachlorobenzene	9	11	.000	.242	.235	.699			ug/L
Oil and Grease	267	62	.858	1.245	1.245	.526	QC		mg/L
Ammonia plus Ammonium	112	5	.075	.127	.089	.128	QC		mg/Las N
Total Kjeldahl Nitrogen	3	100	.553	.553	.553	.040			mg/Las N
Nitrate+Nitrite	3	100	2.633	2.633	2.633	1.818			mg/Las N
DOC	116	100	4.716	4.716	4.716	4.352			mg/Las C
Ftflow	273	100	33691.656	33691.656	33691.656	4425.821			m3/day
Iron	34	94	.373	.373	.373	.197			mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VI-1.2

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0200    STREAM: SEWAGE STATION    CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
-----	---	-----	-----	-----	---	---	---	----
Total Phosphorus	8	75	.157	.182	.180	.129	QC	mg/Les P
Total Suspended Solids	4	100	24.575	24.575	24.575	24.509		mg/L
Ftflow	48	98	3111.021	3111.021	3111.021	1492.617		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION



TABLE VI-1.3

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0300    STREAM: LAGOON E    CLASSIFICATION: WASTE DISPOSAL SITE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Cyanide Total	3	67	.004	.006	.005	.003 QC	mg/L HCW
Total Suspended Solids	3	67	4.333	6.000	5.900	1.744 QC	mg/L
Chromium	3	100	.061	.061	.061	.010	mg/L
Zinc	3	33	.014	.021	.020	.019 QC	mg/L
Phenolics (4AAP)	3	100	40.533	40.533	40.533	29.421	ug/L
Sulphide	3	100	14.920	14.920	14.920	25.185	mg/L
Naphthalene	3	33	1.267	1.800	1.367	1.102	ug/L
Oil and Grease	3	100	1.467	1.467	1.467	.404 QC	mg/L
Ammonia plus Ammonium	3	67	1.398	1.398	1.398	1.220	mg/Las N
Ftflow	3	100	388.667	388.667	388.667	174.360	m3/day
Iron	3	100	.196	.196	.196	.127	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This stream flows into #4 Pond Discharge (Control Point 0100).

TABLE VI-1.4

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0400    STREAM: BLOWDOWN TREATMENT PLANT    CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	LTA	LTA	LTA	---	---	----
Cyanide Total	105	98	.114	.114	.114	.046		mg/L HCN
Total Phosphorus	34	59	.190	.225	.218	.236		mg/Las P
Total Suspended Solids	105	6	.431	5.146	4.863	.788	QC	mg/L
Chromium	104	5	.008	.013	.009	.008	QC	mg/L
Lead	103	14	.027	.047	.031	.109		mg/L
Zinc	103	96	.062	.063	.063	.063		mg/L
Phenolics (4AAP)	104	52	1.736	2.582	2.412	1.501	QC	ug/L
Benzene	117	3	.039	.526	.234	.225	QC	ug/L
Oil and Grease	104	70	1.130	1.428	1.428	.851	QC	mg/L
Ammonia plus Ammonium	105	7	.061	.147	.084	.087	QC	mg/Las N
Eftflow	105	100	19607.019	19607.019	19607.019	2349.674		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This stream flows into #4 Pond Discharge (Control Point 0100).

TABLE VI-1.5

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0500 STREAM: STORM WATER POND #2 CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM	MAXIMUM			
-----	---	-----	-----	-----	---	---	----
Cyanide Total	9	22	.003	.005	.004	.003 QC	mg/L HCN
Total Suspended Solids	9	100	27.822	27.822	27.822	19.683	mg/L
Volatile Suspended Solids	9	11	4.278	6.500	4.789	3.187	mg/L
Lead	9	22	.027	.043	.030	.048	mg/L
Zinc	9	44	.028	.032	.032	.031 QC	mg/L
Phenolics (4AAP)	9	11	.389	2.167	1.811	.633 QC	ug/L
Oil and Grease	9	67	1.733	2.067	2.067	1.115 QC	mg/L
Ammonia plus Ammonium	9	11	.095	.206	.132	.211	mg/L as N
Iron	9	100	1.170	1.170	1.170	.791	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VI-1.6

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0600 STREAM: COAL STORAGE AREA CLASSIFICATION: WASTE DISPOSAL SITE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Cyanide Total	4	75	.009	.010	.010	.009	mg/L HCN
Total Suspended Solids	4	50	5.900	7.150	7.075	2.859 QC	mg/L
Chromium	4	25	.014	.014	.014	.004	mg/L
Zinc	4	50	.016	.021	.021	.022 QC	mg/L
Phenolics (4AAP)	4	25	.550	2.050	1.750	.300 QC	ug/L
Oil and Grease	4	100	1.675	1.675	1.675	.479 QC	mg/L
Iron	4	100	.217	.217	.217	.061	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE B-2.1

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0100 STREAM: #4 POND DISCHARGE CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 89:101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL UNIT
			MIN CONCN	MAX CONCN	CONCN	
2	Cyanide Total	115	.002	.090	.018	.005 mg/L HCN
6	Total Phosphorus	38	.080	.430	.080	.100 mg/Las P
7	Specific Conductance	267	620.000	1100.000	1065.000	5.000 uS/cm@25°C
8	Total Suspended Solids	268	4.700	19.300	13.000	5.000 mg/L
9	Aluminum	9	.030	.864	.450	.030 mg/L
	Cadmium	37	.002	.090	.001	.002 mg/L
	Chromium	40	.004	.030	.002	.020 mg/L
	Copper	40	.002	.070	.001	.010 mg/L
	Lead	39	.006	.230	.010	.030 mg/L
	Molybdenum	9	.009	.032	.016	.020 mg/L
	Nickel	9	.009	.032	.005	.020 mg/L
	Vanadium	9	.006	.178	.006	.030 mg/L
	Zinc	39	.009	.580	.041	.010 mg/L
10	Selenium	9	.006	.024	.017	.005 mg/L
11	Chromium (hexavalent)	3	.010	.014		.010 mg/L
12	Mercury	9	.010	1.400	.020	.100 ug/L
14	Phenolics (4AAP)	115	.500	4.500	1.000	2.000 ug/L
15	Sulphide	3	.019	.040	.002	.020 mg/L
16	Bromoform	9	.370	90.000	16.000	3.700 ug/L
	Bromomethane	9	2.400	3.700		3.700 ug/L
	Chloroform	9	.400	9.000	4.000	.700 ug/L
	Dibromochloromethane	9	7.800	67.000	10.000	1.100 ug/L
	Methylene Chloride	9	.300	9.200	.500	1.300 ug/L
19	Bis(2-ethylhexyl)phthalate	9	1.400	5.800	1.000	2.200 ug/L
23	1,2,3,4-Tetrachlorobenzene	9	.009	9.100	.001	.010 ug/L
	1,2,3,5-Tetrachlorobenzene	9	.005	5.400	.001	.010 ug/L
	1,2,3-Trichlorobenzene	9	.009	8.600	.001	.010 ug/L
	1,2,4,5-Tetrachlorobenzene	9	.005	5.300	.001	.010 ug/L
	1,2,4-Trichlorobenzene	9	.006	6.100	.002	.010 ug/L
	2,4,5-Trichlorotoluene	9	.003	2.700	.001	.010 ug/L
	Hexachlorobenzene	9	.003	3.000	.001	.010 ug/L
	Hexachlorobutadiene	9	.002	2.500	.001	.010 ug/L
	Hexachlorocyclopentadiene	9	.005	4.700	.001	.010 ug/L
	Hexachloroethane	9	.002	1.700	.001	.010 ug/L
	Octachlorostyrene	9	.003	2.600	.001	.010 ug/L
	Pentachlorobenzene	9	.002	2.100	.001	.010 ug/L
25	Oil and Grease	267	1.000	7.200	.100	1.000 mg/L
4a	Ammonia plus Ammonium	112	.025	.910	.050	.250 mg/Las N
	Total Kjeldahl Nitrogen	3	.510	.590	.600	.500 mg/Las N
4b	Nitrate+Nitrite	3	.600	4.100	2.200	.250 mg/Las N
5a	DOC	116	1.800	31.300	3.300	.500 mg/Las C
98	Ftflow	273	22687.000	45543.000		m3/day
151	Iron	34	.010	.940	.650	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE VI-2.2

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0200 STREAM: SEWAGE STATION CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
6	Total Phosphorus	8	.080	.400		.100 mg/Las P
8	Total Suspended Solids	4	8.800	61.100		5.000 mg/L
98	Ftflow	48	615.000	7681.000		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE VI-2.3

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## STELCO STEEL LAKE ERIE WORKS

CONTROL POINT: 0400 STREAM: BLOWDOWN TREATMENT PLANT CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 900731

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
2	Cyanide Total	105	.002	.279	.120	.005 mg/L HCN
6	Total Phosphorus	34	.080	1.040	.140	.100 mg/Las P
8	Total Suspended Solids	105	4.700	10.000	1.700	5.000 mg/L
9	Chromium	104	.004	.067	.002	.020 mg/L
	Lead	103	.006	1.010	.005	.030 mg/L
	Zinc	103	.009	.330	.031	.010 mg/L
14	Phenolics (4AAP)	104	1.600	11.500	1.000	2.000 ug/L
17	Benzene	117	.200	2.200	.200	.500 ug/L
25	Oil and Grease	104	1.000	8.000	1.000	1.000 mg/L
4a	Ammonia plus Ammonium	105	.025	.560	.050	.250 mg/Las N
98	Ftflow	105	4853.000	23803.000		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION





**APPENDIX VII**

**ATLAS SPECIALTY STEEL**

**FOR THE PERIOD**

**FROM NOVEMBER 1,1989 TO OCTOBER 31,1990**



TABLE VII-1.1

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 0100 STREAM: 42 INCH SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Specific Conductance	333	100	360.228	360.228	360.228	50.199		us/cm@25C
Total Suspended Solids	332	42	5.652	7.007	6.192	8.239		mg/L
Volatile Suspended Solids	332	3	.888	10.014	5.409	2.182	QC	mg/L
Aluminum	11	100	.062	.062	.062	.036		mg/L
Chromium	11	36	.020	.020	.020	.014		mg/L
Copper	11	100	.029	.029	.029	.011		mg/L
Molybdenum	11	91	.062	.062	.062	.026		mg/L
Nickel	11	100	.155	.155	.155	.154		mg/L
Zinc	12	92	.052	.053	.053	.028		mg/L
1,1,2-Trichloroethane	10	10	.000	.680	.590	.285	QC	ug/L
Chloroform	10	10	.000	.760	.760	.190	QC	ug/L
Methylene Chloride	10	10	2.410	3.580	3.310	7.305	QC	ug/L
o-Xylene	6	17	.103	.520	.520	.049	QC	ug/L
Benzobutylphthalate	9	11	.100	.633	.633	.100	QC	ug/L
Bis(2-ethylhexyl)phthalate	9	22	4.411	6.122	5.422	11.779	QC	ug/L
1,2,3,5-Tetrachlorobenzene	8	13	.002	.011	.011	.003	QC	ug/L
1,2,4,5-Tetrachlorobenzene	8	13	.002	.011	.011	.003	QC	ug/L
1,2,4-Trichlorobenzene	8	25	.010	.018	.018	.022	QC	ug/L
Octachlorodibenzo-p-dioxin	2	50	.360	.400	.400	.452		ng/L
Octachlorodibenzofuran	2	50	.060	.075	.075	.064		ng/L
Oil and Grease	329	70	2.458	2.759	2.759	3.616		mg/L
Total Kjeldahl Nitrogen	4	25	.392	.392	.392	.302		mg/Las N
Nitrate+Nitrite	4	100	4.425	4.425	4.425	3.954		mg/Las N
DOC	136	100	2.734	2.734	2.734	.719		mg/Las C
Ftflow	336	100	15149.283	15149.283	15149.283	7096.824		m3/day
Iron	10	100	.270	.270	.270	.221		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VII-1.2

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ATLAS SPECIALTY STEEL

CONTROL POINT: 0200 STREAM: WASTE ACID SOLIDIFICATION PLANT CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM	MAXIMUM			
-----	---	-----	-----	-----	---	---	-----
Total Suspended Solids	44	98	946.895	947.009	946.941	2635.878	mg/L
Volatile Suspended Solids	44	91	217.900	218.127	218.014	477.468	mg/L
Aluminum	44	86	1.228	1.230	1.229	3.776	mg/L
Cadmium	43	35	.013	.014	.013	.032	mg/L
Chromium	44	98	22.713	22.713	22.713	50.401	mg/L
Cobalt	44	73	.517	.518	.517	.761	mg/L
Copper	44	100	1.290	1.290	1.290	2.062	mg/L
Lead	44	25	.030	.048	.040	.061	mg/L
Molybdenum	44	98	4.079	4.080	4.079	4.123	mg/L
Nickel	44	100	41.059	41.059	41.059	62.566	mg/L
Thallium	44	7	.008	.036	.031	.032 QC	mg/L
Vanadium	44	27	.139	.160	.150	.427	mg/L
Zinc	44	86	.340	.341	.340	.573	mg/L
Antimony	44	27	.013	.015	.014	.058	mg/L
Arsenic	44	32	.020	.020	.020	.061	mg/L
Selenium	44	7	.003	.006	.003	.015	mg/L
Chromium (hexavalent)	30	73	.073	.074	.074	.145	mg/L
Oil and Grease	45	84	7.767	7.922	7.922	18.472	mg/L
Ftflow	45	100	122.222	122.222	122.222	303.909	m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the North Plant Treatment (control point 0200).

TABLE VII-1.3

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 0300    STREAM: NORTH PLANT TREATMENT    CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Total Suspended Solids	133	20	4.144	7.189	5.362	9.864	mg/L
Volatile Suspended Solids	133	2	.470	9.868	5.146	.927 QC	mg/L
Chromium	138	26	.025	.031	.027	.042	mg/L
Nickel	138	91	.120	.123	.122	.239	mg/L
Zinc	137	98	.090	.090	.090	.101	mg/L
Chromium (hexavalent)	26	8	.004	.006	.005	.003 QC	mg/L
Oil and Grease	133	32	1.138	1.814	1.814	3.352 QC	mg/L
Ftflow	133	100	14275.391	14275.391	14275.391	6848.470	m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC  
I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the 42 Inch Sewer (control point 0100).

TABLE VII-1.4

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ATLAS SPECIALTY STEEL

CONTROL POINT: 0400 STREAM: CEVAM CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	-----
Total Suspended Solids	136	10	2.933	5.212	3.869	10.329	QC	mg/L
Volatile Suspended Solids	135	1	1.056	10.833	5.894	9.342	QC	mg/L
Chromium	141	4	.005	.017	.009	.011	QC	mg/L
Nickel	141	66	.028	.031	.029	.022		mg/L
Zinc	140	58	.019	.021	.020	.036		mg/L
Oil and Grease	136	54	13.130	13.593	13.593	128.252		mg/L
Ftflow	142	100	1854.028	1854.028	1854.028	1771.608		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the 42 Inch Sewer (control point 0100).

TABLE VII-1.5

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 0500 STREAM: WASTE DISPOSAL SITE CLASSIFICATION: WASTE DISPOSAL SITE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	-----
Total Suspended Solids	10	80	24.110	24.610	24.310	26.520		mg/L
Volatile Suspended Solids	10	30	11.851	16.851	14.430	18.439		mg/L
Nickel	9	78	.043	.043	.043	.050		mg/L
Zinc	10	60	.034	.037	.035	.075		mg/L
Chromium (hexavalent)	3	67	.129	.132	.130	.199		mg/L
Oil and Grease	10	100	6.620	6.620	6.620	1.590		mg/L
Iron	10	80	.349	.351	.349	.797		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VII-1.6

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 0700 STREAM: NORTH PLANT WATER RECLAIM AT 42 INCH SEWER CLASSIFICATION: EMERGENCY OVERFLOW

FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Total Suspended Solids	1	100	32.500	32.500	32.500		mg/L
Nickel	1	100	.240	.240	.240		mg/L
Zinc	1	100	.120	.120	.120		mg/L
Oil and Grease	1	100	3.400	3.400	3.400		mg/L
Ftflow	1	100	1800.000	1800.000	1800.000		m3/day
Iron	1	100	2.490	2.490	2.490		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION



TABLE VII-1.7

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 0800 STREAM: #3 BUILDING CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Total Suspended Solids	10	100	107.640	107.640	107.640	136.777		mg/L
Volatile Suspended Solids	10	80	38.830	40.830	39.830	42.990		mg/L
Nickel	9	100	.359	.359	.359	.639		mg/L
Zinc	9	100	.328	.328	.328	.375		mg/L
Oil and Grease	9	100	121.478	121.478	121.478	200.678		mg/L
Iron	9	100	4.583	4.583	4.583	7.904		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the 42 Inch Sewer (control point 0100).

TABLE VII-1.8

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ATLAS SPECIALTY STEEL

CONTROL POINT: 0900 STREAM: SCALE PIT CLASSIFICATION: EMERGENCY OVERFLOW  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
-----	---	-----	-----	-----	---	---	---	----
Total Suspended Solids	1	100	16.500	16.500	16.500			mg/L
Volatile Suspended Solids	1	100	10.000	10.000	10.000			mg/L
Nickel	1	100	.104	.104	.104			mg/L
Zinc	1	100	.044	.044	.044			mg/L
Oil and Grease	1	100	8.800	8.800	8.800			mg/L
Iron	1	100	1.250	1.250	1.250			mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

NOTE: This effluent stream flows into the 42 Inch Sewer (control point 0100).

TABLE VII-1.9

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 1100 STREAM: INTAKE WATER CLASSIFICATION: INTAKE WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER -----	TNS	% F.O.	CONCENTRATION RANGE		LTA	STO DEV QC	UNIT
			MINIMUM LTA	MAXIMUM LTA			
Specific Conductance	209	100	291.938	291.938	291.938	10.495	uS/cm@25C
Total Suspended Solids	206	12	2.186	4.443	3.089	1.892 QC	mg/L
Aluminum	10	100	.089	.102	.102	.043	mg/L
Zinc	10	30	.004	.010	.007	.004 QC	mg/L
Chromium (hexavalent)	1	100	.011	.011	.011		QC mg/L
o-Xylene	6	17	.100	.517	.517	.041 QC	ug/L
Benzobutylphthalate	9	11	.100	.633	.633	.100 QC	ug/L
1,2,4-Trichlorobenzene	7	14	.002	.010	.010	.001 QC	ug/L
Octachlorodibenzo-p-dioxin	2	50	.800	.840	.840	1.074	ng/L
Octachlorodibenzofuran	2	50	.140	.155	.155	.177	ng/L
Oil and Grease	208	15	.718	1.564	1.564	3.191 QC	mg/L
Total Kjeldahl Nitrogen	4	25	.445	.445	.445	.337	mg/L as N
Nitrate+Nitrite	4	75	.332	.332	.332	.141	mg/L as N
DOC	136	99	2.227	2.235	2.235	.335	mg/L as C
Ftflow	194	100	16608.093	16608.093	16608.093	5327.891	m3/day
Iron	10	100	.110	.110	.110	.046	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VII-1.10

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

ATLAS SPECIALTY STEEL

CONTROL POINT: 1200    STREAM: COMPRESSORS RECLAIM    CLASSIFICATION: EMERGENCY OVERFLOW  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS   % F.O.		CONCENTRATION RANGE		LTA	STD DEV QC	UNIT
			MINIMUM	MAXIMUM			
-----	---	-----	-----	-----	---	---	----
Total Suspended Solids	1	100	21.500	21.500	21.500		mg/L
Iron	1	100	.116	.116	.116		mg/L

TNS    = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA    = LONG TERM AVERAGE CONCENTRATION

QC     = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

         I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VII-2.1

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ATLAS SPECIALTY STEEL

CONTROL POINT: 0100 STREAM: 42 INCH SEWER CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
7	Specific Conductance	333	289.000	570.000	411.000	5.000 $\mu\text{S}/\text{cm}^2$ 25C
8	Total Suspended Solids	332	1.300	99.000	6.000	5.000 mg/L
	Volatile Suspended Solids	332	1.000	22.000	1.900	10.000 mg/L
9	Aluminum	11	.030	.160	.140	.030 mg/L
	Chromium	11	.008	.058	.049	.020 mg/L
	Copper	11	.016	.052	.079	.010 mg/L
	Molybdenum	11	.017	.110	.095	.020 mg/L
	Nickel	11	.048	.600	.160	.020 mg/L
	Zinc	12	.005	.096	.170	.010 mg/L
16	1,1,2-Trichloroethane	10	.500	1.400	.200	.600 $\mu\text{g}/\text{L}$
	Chloroform	10	.700	1.300	.500	.700 $\mu\text{g}/\text{L}$
	Methylene Chloride	10	1.000	24.100	5.000	1.300 $\mu\text{g}/\text{L}$
17	o-Xylene	6	.500	.620	.200	.500 $\mu\text{g}/\text{L}$
19	Benzobutylphthalate	9	.600	.900	.500	.600 $\mu\text{g}/\text{L}$
	Bis(2-ethylhexyl)phthalate	9	1.300	36.800	1.000	2.200 $\mu\text{g}/\text{L}$
23	1,2,3,5-Tetrachlorobenzene	8	.010	.018	.001	.010 $\mu\text{g}/\text{L}$
	1,2,4,5-Tetrachlorobenzene	8	.010	.018	.001	.010 $\mu\text{g}/\text{L}$
	1,2,4-Trichlorobenzene	8	.010	.072	.002	.010 $\mu\text{g}/\text{L}$
24	Octachlorodibenzo-p-dioxin	2	.081	.720		.030 ng/L
	Octachlorodibenzofuran	2	.030	.120		.030 ng/L
25	Oil and Grease	329	1.000	42.800	2.000	1.000 mg/L
4a	Total Kjeldahl Nitrogen	4	.180	.840	.300	.500 mg/Las N
4b	Nitrate+Nitrite	4	.500	9.860	2.000	.250 mg/Las N
5a	DOC	136	1.710	6.050	4.300	.500 mg/Las C
98	Ftflow	336	500.000	57912.000		m3/day
IS1	Iron	10	.038	.840	1.400	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE VII-2.2

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ATLAS SPECIALTY STEEL

CONTROL POINT: 0200 STREAM: WASTE ACID SOLIDIFICATION PLANT CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL UNIT
			MIN CONCN	MAX CONCN		
8	Total Suspended Solids	44	2.000	12838.000	18.700	5.000 mg/L
	Volatile Suspended Solids	44	5.000	2408.000	6.800	10.000 mg/L
9	Aluminum	44	.014	23.600	.210	.030 mg/L
	Cadmium	43	.000	.169		.002 mg/L
	Chromium	44	.015	294.400	.200	.020 mg/L
	Cobalt	44	.002	3.210	.007	.020 mg/L
	Copper	44	.016	8.530	.110	.010 mg/L
	Lead	44	.003	.253	.036	.030 mg/L
	Molybdenum	44	.005	17.590	3.500	.020 mg/L
	Nickel	44	.047	264.500	.220	.020 mg/L
	Thallium	44	.010	.220	.007	.030 mg/L
	Vanadium	44	.007	2.285	.003	.030 mg/L
	Zinc	44	.003	2.719	.004	.010 mg/L
10	Antimony	44	.001	.380	.001	.005 mg/L
	Arsenic	44	.001	.380	.034	.005 mg/L
	Selenium	44	.001	.100	.001	.005 mg/L
11	Chromium (hexavalent)	30	.002	.600		.010 mg/L
25	Oil and Grease	45	1.000	96.000	2.000	1.000 mg/L
98	Flow	45	33.000	2110.000		m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE VII-2.3

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ATLAS SPECIALTY STEEL

CONTROL POINT: 0300 STREAM: NORTH PLANT TREATMENT CLASSIFICATION: PROCESS EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
8	Total Suspended Solids	133	2.000	79.000	3.800	5.000	mg/L
	Volatile Suspended Solids	133	2.800	11.200	1.000	10.000	mg/L
9	Chromium	138	.002	.210	.024	.020	mg/L
	Nickel	138	.004	2.140	.120	.020	mg/L
	Zinc	137	.003	.760	.200	.010	mg/L
11	Chromium (hexavalent)	26	.001	.014		.010	mg/L
25	Oil and Grease	133	1.000	32.600	2.000	1.000	mg/L
98	Ftflow	133	.000	36800.000			m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION

TABLE VII-2.4

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## ATLAS SPECIALTY STEEL

CONTROL POINT: 0400 STREAM: CEVAM CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC CONCN	RMDL	UNIT
			MIN CONCN	MAX CONCN			
8	Total Suspended Solids	136	2.000	118.000	3.700	5.000	mg/L
	Volatile Suspended Solids	135	1.100	112.000	1.500	10.000	mg/L
9	Chromium	141	.002	.110	.002	.020	mg/L
	Nickel	141	.004	.180	.025	.020	mg/L
	Zinc	140	.003	.318	.073	.010	mg/L
25	Oil and Grease	136	1.000	1497.400	1.000	1.000	mg/L
98	Flow	142	.000	17048.000			m3/day

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION



## **APPENDIX VIII**

### **IVACO ROLLING MILLS**

#### **FOR THE PERIOD**

**FROM NOVEMBER 1,1989 TO OCTOBER 31,1990**



TABLE VIII-1.1

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## IVACO ROLLING MILLS

CONTROL POINT: 0200 STREAM: EAST DISCHARGE (WHEN COOLING WATER) CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Total Phosphorus	12	100	.733	.733	.733	.445		mg/Las P
Specific Conductance	3	100	2354.333	2354.333	2354.333	964.607		uS/cm@25C
Total Suspended Solids	12	92	27.250	27.250	27.250	27.193		mg/L
Volatile Suspended Solids	12	42	7.167	8.000	7.492	4.529		mg/L
Aluminum	4	100	.912	.912	.912	.616		mg/L
Chromium	12	42	.016	.017	.016	.009		mg/L
Copper	4	100	.028	.028	.028	.008		mg/L
Lead	12	8	.007	.017	.010	.009	QC	mg/L
Molybdenum	4	50	.021	.021	.021	.011		mg/L
Vanadium	4	25	.021	.021	.021	.015		mg/L
Zinc	12	100	.558	.558	.558	.216		mg/L
Arsenic	4	25	.003	.005	.004	.004		mg/L
Chromium (hexavalent)	3	100	.045	.045	.045	.022		mg/L
1,1-Dichloroethylene	5	20	.824	2.504	1.064	1.365		ug/L
1,2-Dichloroethane	5	20	.000	.804	.528	.172		ug/L
Chloroform	5	80	3.486	3.626	3.566	3.300		ug/L
Methylene Chloride	5	60	2.956	3.216	3.016	2.101		ug/L
Tetrachloroethylene	5	100	2.560	2.560	2.560	.416		ug/L
Trans-1,2-Dichloroethylene	5	20	.340	1.460	.620	.610		ug/L
Trichloroethylene	4	100	71.250	71.250	71.250	30.347		ug/L
Benzene	5	20	1.480	1.880	1.608	3.238		ug/L
Toluene	5	80	.602	.702	.632	.318		ug/L
Benzobutylphthalate	5	20	.540	.900	.836	.888		ug/L
Bis(2-ethylhexyl)phthalate	5	40	16.400	17.720	17.342	21.610		ug/L
Phenanthrene	5	60	.420	.580	.540	.261		ug/L
Oil and Grease	10	91	22.364	24.600	24.600	37.748		mg/L
Ammonia plus Ammonium	4	75	.297	.297	.297	.085		mg/Las N
Total Kjeldahl Nitrogen	4	100	1.012	1.012	1.012	.209		mg/Las N
Nitrate+Nitrite	4	75	.510	.572	.516	.369		mg/Las N
DOC	12	100	11.275	11.275	11.275	3.026		mg/Las C
TOC	4	100	9.975	9.975	9.975	1.952		mg/Las C
Flow	10	100	109.687	109.687	109.687	137.489		m3/day
Iron	12	100	1.141	1.141	1.141	.560		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VIII-1.2

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

IVACO ROLLING MILLS

CONTROL POINT: 0300 STREAM: NORTHEAST DISCHARGE CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE			STD	DEV	QC	UNIT
			MINIMUM	MAXIMUM					
			LTA	LTA	LTA				
-----	---	-----	-----	-----	---	---	---	---	-----
Total Suspended Solids	6	100	48.500	48.500	48.500	43.579			mg/L
Volatile Suspended Solids	6	33	18.167	19.833	18.818	26.905			mg/L
Lead	6	50	.032	.042	.035	.027			mg/L
Zinc	6	100	.273	.273	.273	.224			mg/L
Oil and Grease	6	67	1.167	1.500	1.500	.837	QC		mg/L
Iron	6	100	2.740	2.740	2.740	2.395			mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VIII-1.3

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## IVACO ROLLING MILLS

CONTROL POINT: 0400 STREAM: SOUTHEAST DISCHARGE CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER -----	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV QC	UNIT -----
			MINIMUM LTA	MAXIMUM LTA			
Total Suspended Solids	6	100	34.667	34.667	34.667	12.941	mg/L
Volatile Suspended Solids	6	17	7.333	7.333	7.333	3.777	mg/L
Lead	6	17	.009	.024	.014	.009 QC	mg/L
Zinc	6	83	.104	.104	.104	.078	mg/L
Oil and Grease	5	60	1.000	1.400	1.400	.548 QC	mg/L
Iron	6	100	1.777	1.777	1.777	1.323	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VIII-1.4

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## IVACO ROLLING MILLS

CONTROL POINT: 0800 STREAM: ROD MILL ROOF DRAIN CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	--	----
Total Phosphorus	6	17	.056	.056	.056	.030		mg/Las P
Total Suspended Solids	6	33	4.000	7.333	5.833	4.777		mg/L
Zinc	6	100	.158	.158	.158	.058		mg/L
Oil and Grease	5	17	.333	1.200	1.200	.447	QC	mg/L
Iron	6	67	.027	.027	.027	.020		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE VIII-2.1

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

## IVACO ROLLING MILLS

CONTROL POINT: 0200 STREAM: EAST DISCHARGE (WHEN COOLING WATER) CLASSIFICATION: COOLING WATER  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL	UNIT
			MIN	MAX			
---	-----	---	CONCN	CONCN	CONCN	---	---
6	Total Phosphorus	12	.120	1.540	.400	.100	mg/Las P
7	Specific Conductance	3	1633.000	3450.000	5420.000	5.000	uS/cm@25C
8	Total Suspended Solids	12	4.000	94.000	28.600	5.000	mg/L
	Volatile Suspended Solids	12	3.910	18.000	12.700	10.000	mg/L
9	Aluminum	4	.320	1.620	.390	.030	mg/L
	Chromium	12	.003	.033	.017	.020	mg/L
	Copper	4	.020	.038	.022	.010	mg/L
	Lead	12	.003	.036	.020	.030	mg/L
	Molybdenum	4	.010	.035	.050	.020	mg/L
	Vanadium	4	.009	.042	.028	.030	mg/L
	Zinc	12	.230	.870	.220	.010	mg/L
10	Arsenic	4	.001	.010	.001	.005	mg/L
11	Chromium (hexavalent)	3	.020	.060		.010	mg/L
16	1,1-Dichloroethylene	5	.400	3.500	.500	2.800	ug/L
	1,2-Dichloroethane	5	.400	.820	.500	.800	ug/L
	Chloroform	5	.400	7.100	1.000	.700	ug/L
	Methylene Chloride	5	.300	4.600	2.000	1.300	ug/L
	Tetrachloroethylene	5	2.300	3.300	1.000	1.100	ug/L
	Trans-1,2-Dichloroethylene	5	.200	1.700	.500	1.400	ug/L
	Trichloroethylene	4	34.000	96.000	50.000	1.900	ug/L
17	Benzene	5	.160	7.400	.200	.500	ug/L
	Toluene	5	.150	1.020	.400	.500	ug/L
19	Benzobutylphthalate	5	.280	2.400	.500	.600	ug/L
	Bis(2-ethylhexyl)phthalate	5	.310	41.000	1.000	2.200	ug/L
	Phenanthrene	5	.200	.800	.200	.400	ug/L
25	Oil and Grease	10	4.000	128.000	7.000	1.000	mg/L
4a	Ammonia plus Ammonium	4	.230	.420	.550	.250	mg/Las N
	Total Kjeldahl Nitrogen	4	.770	1.240	1.750	.500	mg/Las N
4b	Nitrate+Nitrite	4	.025	.920	.300	.250	mg/Las N
5a	DOC	12	7.300	16.500	9.800	.500	mg/Las C
5b	TOC	4	8.100	11.900	15.000	5.000	mg/Las C
98	Ftflow	10	27.700	487.700		m3/day	
1S1	Iron	12	.500	2.500	.520	.020	mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS  
 MIN CONCN = MINIMUM CONCENTRATION  
 MAX CONCN = MAXIMUM CONCENTRATION  
 INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION  
 RMDL = REGULATION METHOD OF DETECTION LIMIT  
 UNIT = UNIT OF CONCENTRATION





**APPENDIX IX**

**STATUS REPORT ON THE MONITORING DATA**

**LASCO**

**FOR THE PERIOD**

**FROM NOVEMBER 1,1989 TO OCTOBER 31,1990**



TABLE IX-1.1

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

LASCO

CONTROL POINT: 0100    STREAM: SOUTH POND    CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Total Phosphorus	53	96	.373	.373	.373	.148		mg/Las P
Specific Conductance	364	100	428.159	428.159	428.159	73.834		uS/cm@25C
Total Suspended Solids	365	82	8.805	9.695	9.695	4.840	QC	mg/L
Aluminum	11	73	.095	.101	.099	.072		mg/L
Beryllium	11	9	.001	.010	.010		QC	mg/L
Cadmium	11	45	.005	.007	.006	.007		mg/L
Chromium	11	27	.013	.025	.019	.015	QC	mg/L
Copper	11	64	.077	.081	.081	.151		mg/L
Lead	157	58	.050	.056	.052	.075		mg/L
Molybdenum	11	36	.016	.027	.022	.024		mg/L
Nickel	11	55	.020	.027	.024	.018	QC	mg/L
Silver	11	9	.008	.032	.016	.018	QC	mg/L
Vanadium	11	18	.019	.041	.034	.032	QC	mg/L
Zinc	157	94	.336	.337	.337	1.043		mg/L
Chromium (hexavalent)	4	50	.015	.017	.016	.018		mg/L
Oil and Grease	365	74	2.011	2.257	2.257	2.136		mg/L
Ammonia plus Ammonium	4	75	.347	.347	.347	.140		mg/Las N
Total Kjeldahl Nitrogen	4	50	1.297	1.547	1.547	1.913		mg/Las N
Nitrate+Nitrite	4	75	1.226	1.226	1.226	1.359		mg/Las N
DOC	53	100	33.720	33.720	33.720	9.889		mg/Las C
Ftflow	365	100	6765.751	6765.751	6765.751	913.986		m3/day
Iron	53	100	1.067	1.067	1.067	.591		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IX-1.2

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

LASCO

CONTROL POINT: 0200    STREAM: STORM WATER DISCHARGE POINT    CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM	MAXIMUM				
-----	---	-----	-----	-----	---	---	---	-----
Total Suspended Solids	14	100	260.929	260.929	260.929	383.654		mg/L
Volatile Suspended Solids	14	64	62.000	63.429	62.714	98.571		mg/L
Lead	14	86	8.821	8.826	8.823	22.655		mg/L
Zinc	14	93	1.388	1.389	1.389	2.263		mg/L
Oil and Grease	14	100	18.790	18.790	18.790	30.237		mg/L
Iron	14	100	7.704	7.704	7.704	19.005		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IX-1.3

AVERAGE CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

LASCO

CONTROL POINT: 0600    STREAM: EAST-STORM WATER DISCHARGE POINT    CLASSIFICATION: STORM WATER  
FOR THE PERIOD FROM 891101 TO 901031

PARAMETER	TNS	% F.O.	CONCENTRATION RANGE		LTA	STD DEV	QC	UNIT
			MINIMUM LTA	MAXIMUM LTA				
Total Suspended Solids	12	100	73.017	73.017	73.017	89.460		mg/L
Volatile Suspended Solids	12	50	21.767	24.267	23.017	37.418		mg/L
Lead	12	75	.094	.099	.096	.079		mg/L
Zinc	12	92	.216	.217	.217	.274		mg/L
Oil and Grease	12	92	23.887	23.970	23.970	60.150		mg/L
Iron	12	83	.335	.337	.336	.240		mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

% F.O. = PERCENT FREQUENCY OF OCCURRENCE ABOVE RMDL

LTA = LONG TERM AVERAGE CONCENTRATION

QC = PARAMETER WITH WITH QUALITY CONCERN WHEN MARKED QC

I.E. LTA LESS THAN 2 TIMES THE TRAVELLING BLANK CONCENTRATION

TABLE IX-2.1

INSPECTION AND MONITORING CONCENTRATIONS  
CONVENTIONAL AND PRIORITY POLLUTANTS

LASCO

CONTROL POINT: 0100 STREAM: SOUTH POND CLASSIFICATION: FINAL DISCHARGE EFFLUENT  
FOR THE PERIOD FROM 891101 TO 901031

ATG	PARAMETER	TNS	CONCENTRATION RANGE		INSPEC	RMDL UNIT
			MIN CONCN	MAX CONCN		
6	Total Phosphorus	53	.060	.760	.470	.100 mg/Las P
7	Specific Conductance	364	240.000	711.000	412.500	5.000 uS/cm@25C
8	Total Suspended Solids	365	5.000	44.800	35.800	5.000 mg/L
9	Aluminum	11	.020	.210	.240	.030 mg/L
	Beryllium	11	.010	.010	.001	.010 mg/L
	Cadmium	11	.001	.020		.002 mg/L
	Chromium	11	.010	.050	.012	.020 mg/L
	Copper	11	.010	.510	.055	.010 mg/L
	Lead	157	.010	.740	.022	.030 mg/L
	Molybdenum	11	.010	.090	.007	.020 mg/L
	Nickel	11	.010	.060	.031	.020 mg/L
	Silver	11	.010	.070	.029	.030 mg/L
	Vanadium	11	.020	.120	.006	.030 mg/L
	Zinc	157	.010	7.090	.051	.010 mg/L
11	Chromium (hexavalent)	4	.003	.042		.010 mg/L
25	Oil and Grease	365	.300	22.100	3.500	1.000 mg/L
4a	Ammonia plus Ammonium	4	.209	.532	.100	.250 mg/Las N
	Total Kjeldahl Nitrogen	4	.500	4.410	.750	.500 mg/Las N
4b	Nitrate+Nitrite	4	.125	3.210	.100	.250 mg/Las N
5a	DOC	53	9.380	57.890	6.150	.500 mg/Las C
98	Ftflow	365	1331.000	9283.000		m3/day
IS1	Iron	53	.240	3.160	5.900	.020 mg/L

TNS = TOTAL NUMBER OF VALID SAMPLES FOR CONCENTRATIONS

MIN CONCN = MINIMUM CONCENTRATION

MAX CONCN = MAXIMUM CONCENTRATION

INSPEC CONCN = MINISTRY INSPECTION CONCENTRATION

RMDL = REGULATION METHOD OF DETECTION LIMIT

UNIT = UNIT OF CONCENTRATION



